



July 16, 2021

Mr. Craig Thomas
On-Scene Coordinator
U.S. Environmental Protection Agency, Region 5
77 W Jackson Blvd
Chicago, IL 60604

Subject: **Data Validation Report**
Chemtool Fire Site - RS
EPA Contract No.: 68HE0519D0005
Task Order/Task Order Line Item No.: 68HE0520F0032/0001CF104
Document Tracking No. 0747

Dear Mr. Thomas:

Tetra Tech, Inc. (Tetra Tech) is submitting these data validation reports for five water samples including one field blank water sample, one trip blank water sample, and equipment rinsate blank water sample collected at the Chemtool Fire site. The samples were collected on June 17, 2021, and were analyzed for volatile organic compounds, semivolatile organic compounds, metals, and perfluoroalkyl substances by Eurofins TestAmerica. The final laboratory data package was received on June 21, 2021.

Analytical data were evaluated in general accordance with the *EPA National Functional Guidelines (NFG) for Inorganic Superfund Methods Data Review* (January 2017), the *EPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (January 2017), and the *EPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed using EPA Method 537* (November 2018).

No rejection of results was required for this data package. The results may be used as qualified based on the findings of this validation effort.

If you have any questions regarding this data validation report, please call me at (708) 262-3578.

Sincerely,

A handwritten signature in black ink that reads "Bruce Welch".

Bruce Welch
Environmental Scientist

Enclosure

cc: Chris Burns, Tetra Tech Program Manager
Cordell Renner, Tetra Tech Project Manager
Connie Rodriguez, Tetra Tech Document Control Coordinator
TO/TOLIN File

ATTACHMENT 1

**DATA VALIDATION REPORTS
EUROFINS TESTAMERICA REPORT NOS. 500-201066-1 AND
500-201067-1**

DATA VALIDATION CHECKLIST – STAGE 3
EPA REGION 5 START CONTRACT

Site Name	Chemtool Fire Site – RS	TO/TOLIN No.	68HE0520F0032/0001CF104	
Document Tracking No.	0747a	Technical Reviewer (signature and date)	<i>Harry N. Ellis III</i> 8 July 2021	
Data Reviewer (signature and date)	<i>Bruce Welsh</i> July 6, 2021	Laboratory	Eurofins TestAmerica/University Park, IL	
Laboratory Report No.	500-201066-1	Analyses		
		Volatile organic compounds (VOCs) by SW-846 Method 8260B, semivolatile organic compounds (SVOCs) by SW-846 Method 8270D, and metals by SW-846 Methods 6020A/7470A		
Samples and Matrix	Three water samples and one trip blank water sample			
Field Duplicate Pairs	None			
Field Blanks	RCF-TB-210617			

INTRODUCTION

This checklist summarizes the Stage 3 validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the Tetra Tech Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V), EPA Region 5, Revision 2 (August 2020), the EPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017), and the EPA NFG for Inorganic Superfund Methods Data Review (January 2017).

OVERALL EVALUATION

No rejection of results was required for this data package. The results may be used as qualified based on the findings of this validation effort.

Data completeness:

Within Criteria	Exceedance/Notes
Y	



DATA VALIDATION CHECKLIST – STAGE 3
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Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Instrument Performance Checks:

Within Criteria	Exceedance/Notes
N	<p>Metals: For the Agilent instrument used to analyze samples for metals by SW-846 Method 6020, the laboratory checked the tune of the instrument according to the laboratory's standard operating procedure (SOP). The SOP specifies checking the tune in helium (He) mode using the masses 59, 89, and 205, and checking the tune in no gas mode using the masses 7, 89, and 205. The He mode was used to determine the analyte concentrations in all of the samples. As such, the validator expressed concern that the tune in He mode did not include mass 7, which would have extended the tune check down into the range of masses characteristic of some of the low-mass target analytes. The laboratory was contacted about this concern, and responded by providing the aforementioned laboratory SOP. Because the laboratory conducted its tunes according to the laboratory SOP, no qualification of sample results for analytes with low atomic masses was considered warranted.</p>



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Initial Calibration:

Within Criteria	Exceedance/Notes
N	<p>Metals: The START Region 5 QAPP requires a blank plus five non-zero standards to be analyzed for an ICP-MS initial calibration. Instead, the initial calibrations were analyzed using a blank plus three non-zero standards. Additionally, the lowest initial calibration standard solution for all metals was greater than the equivalent reporting limit concentrations. However, the initial calibration linear range for each metal was verified with a low-level initial calibration verification (ICVL) solution that was equivalent to the reporting limit concentration and a mid-level concentration ICV, except for lithium. The concentration of lithium's lowest initial calibration standard solution and low-level ICV were both 0.010 mg/L, which was five times greater than lithium's 0.0020 mg/L reporting limit; therefore, all lithium sample results that were also less than the verified linear range were qualified as estimated (flagged J). Note that the lithium results were qualified with bias (flagged J+) because of a competing bias from another qualification applied for blank exceedances.</p> <p>VOCs and SVOCs: The reproduced linear and quadratic equations for the VOC and SVOC initial calibrations did not match the linear and quadratic equations in the laboratory data package; however, no qualifications were applied because the laboratory utilized weighted linear and quadratic regressions for the VOC and SVOC initial calibrations, and the results from the data package were recalculated without errors using the weighted linear and quadratic equations from the laboratory data package.</p>

Continuing Calibration:

Within Criteria	Exceedance/Notes
N	<p>SVOCs: Continuing calibration verification (CCV) 500-604971/2 had percent difference values for 2,4-dinitrophenol, 3,3'dichlorobenzidine, and di-n-octyl phthalate that exceeded the laboratory acceptance criteria; however, no qualifications were applied for 2,4-dinitrophenol, 3,3'dichlorobenzidine, and di-n-octyl phthalate because these percent difference values met the NFG acceptance criteria. The CCV 500-604971/2 percent difference value for carbazole exceeded the NFG acceptance criteria; therefore, the carbazole non-detect sample results were qualified as estimated (flagged UJ).</p> <p>VOCs: CCV 500-604830/2 had percent difference values for dibromochloromethane and 1,1,2,2-tetrachloroethane that were within laboratory acceptance criteria, but exceeded the NFG acceptance criteria; therefore, the sample results for these analytes were qualified as estimated (flagged UJ).</p>



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Calibration Verification:

Within Criteria	Exceedance/Notes
N	VOCs: The initial calibration verification (ICV) 500-532681/22 had a percent difference value for dichlorodifluoromethane that exceeds laboratory acceptance criteria; however, no qualifications were applied for dichlorodifluoromethane because the percent difference value met the NFG acceptance criteria.

Method blanks:

Within Criteria	Exceedance/Notes
N	<p>SVOCs: Method blank 500-604851/1-A contained bis(2-ethylhexyl) phthalate at 0.00207 milligrams per liter (mg/L), a concentration greater than the method detection limit (MDL); however, no qualifications were applied because the bis(2-ethylhexyl) phthalate sample results were all non-detect.</p> <p>Metals: The initial calibration blank (ICB) 500-604959/8 contained 0.575 micrograms per liter ($\mu\text{g}/\text{L}$) of lithium. All field samples contained lithium at concentrations that were <10x the concentration of lithium in the ICB; therefore, all lithium sample results were qualified as estimated, possibly biased high (flagged J+). Mercury continuing calibration blanks (CCB) 500-604950/69, 500-604950/81, and 500-604950/92 contained mercury at concentrations greater than the method detection limit; however, no qualifications were applied because the mercury sample results were non-detect.</p>

Field blanks:

Within Criteria	Exceedance/Notes
Y	



DATA VALIDATION CHECKLIST – STAGE 3
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Interference Check Samples (ICS) (ICP metals only):

Within Criteria	Exceedance/Notes
N	The percent recoveries for all ICSA and ICSAB solutions were within the acceptance limits. However, ICSA solution 500-604959/10 analyzed on June 18, 2021, at 14:17 had positive results for cobalt and barium that were greater than the MDL value, and negative results for arsenic and vanadium with absolute values that exceeded the MDL. A comparison of the raw instrument data for the samples (adjusted for dilution) with the raw instrument data for the ICSA solution showed that the concentrations (adjusted for dilution) for two interferents were similar to the concentrations of the interferents in the ICSA solution. The barium raw sample concentration (adjusted for dilution) for all samples were >10x the barium ICSA raw instrument concentration, and the barium results were not qualified. The raw cobalt concentrations (adjusted for dilution) for all samples were <10x the ICSA raw instrument concentration; therefore, the cobalt result for RCF-SP-1-210617 was qualified as estimated, possibly biased high (flagged J+), and the cobalt non-detect sample results were not qualified. The raw arsenic and vanadium concentrations (adjusted for dilution) for all samples were <10x the ICSA raw instrument concentration; therefore, the arsenic and vanadium results for all samples were qualified as estimated, possibly biased low (flagged J-).

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
Y	

MS/MSD:

Within Criteria	Exceedance/Notes
N	The START Region 5 QAPP requires one MS/MSD pair per batch of 20 samples for VOCs, SVOCs, and metals, but the laboratory did not receive sufficient sample volume to perform MS/MSD analyses. While no qualifications were applied, the data user should note the QAPP requirement was not met for the samples.

Post digestion spikes:

Within Criteria	Exceedance/Notes
NA	



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Serial dilutions:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
N	The START Region 5 QAPP requires one laboratory duplicate pair per batch of 20 samples for metals. No laboratory duplicate results were provided. While no qualifications were applied, the data user should note the QAPP requirement was not met for the samples.

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
N	<p>VOCs: Laboratory control sample (LCS) 500-604830/4 had recoveries for dibromochloromethane and bromoform that were less than the laboratory acceptance criteria; therefore, the non-detect results for dibromochloromethane and bromoform for all samples were qualified as estimated (flagged UJ).</p> <p>SVOCs: The LCS and LCS duplicate average recoveries for atrazine, carbazole, and di-n-octyl phthalate exceeded the laboratory acceptance criteria; however, no qualifications were applied because the sample results for these analytes were non-detect. Additionally, the LCS and LCS duplicate relative percent difference (RPD) values for hexachloroethane, hexachlorobutadiene, 2-methylnaphthalene, and hexachlorocyclopentadiene exceeded the laboratory RPD limit; however, no qualifications were applied because the sample results for these analytes were non-detect.</p>



DATA VALIDATION CHECKLIST – STAGE 3
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Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

Second column confirmation (GC and HPLC analyses only):

Within Criteria	Exceedance/Notes
NA	

Internal Standards:

Within Criteria	Exceedance/Notes
Y	

Target analyte identification:

Within Criteria	Exceedance/Notes
N	RCF-SP-2-210617 (SVOCs): The secondary ions for the positively identified analyte diethyl phthalate did not meet the minimum 3:1 signal to noise ratio; therefore, because the mass spectrum did not meet the acceptance criteria, the diethyl phthalate result for this sample was qualified as non-detect (flagged U) at the reported value.



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Analyte quantitation and MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	The non-detect results were reported at the reporting limit (RL) values in the laboratory PDF report, but the non-detect results were reported at the method detection limit (MDL) values in electronic data deliverable. Sample results between the MDL and the RL were flagged "J" by the laboratory. The non-detect results are reported at the RL values in the attached qualified data table.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
N	RCF-SP-1-210617: The laboratory's library search match for 1-decene was a 94% match when compared to the National Institute of Standards and Technology (NIST) database, but there was more than one mass spectrum with a ≥85% match when compared to the NIST database. The data user should use the tentatively identified 1-decene result with caution because there was more than one possible isomer.

System performance and instrument stability:

Within Criteria	Exceedance/Notes
Y	

Other [analytical method version]:

Within Criteria	Exceedance/Notes
N	The START Region 5 QAPP specifies SW-846 Methods 8260D, 8270E, and 6020D should be performed for sample analysis, but the laboratory analyzed the samples by SW-846 Method 8260B, 8270D, and 6020A. No qualifications were applied for this variance.



DATA VALIDATION CHECKLIST – STAGE 3
EPA REGION 5 START CONTRACT

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.



500-201066-1 Mercury

ICU:

6/18/21 10:32 pgs: 961, 896

$$\text{Average} = (16888.2 + 16923.8) / 2 = 16906 \checkmark$$

$$Cx = (16906 - 265.785) / 8162.412 = 2.039 \mu\text{g/L} \checkmark$$

$$\% R = (2.04 / 2.0) \times 100 = 101.9 \% \checkmark$$

ICB: 6/18/21 10:34 pgs: 961, 901

$$\text{Average} = (180.1 + 176.2) / 2 = 178 \checkmark$$

$$Cx = (178 - 265.785) / 8162.412 = -0.0108 \mu\text{g/L} \checkmark$$

CRA: 6/18/21 10:37 pgs: 961, 899

$$\text{Average} = (1917.5 + 1897.1) / 2 = 1907.3 \checkmark$$

$$Cx = (1907 - 265.785) / 8162.412 = 0.201 \mu\text{g/L} \checkmark$$

$$(0.201 / 0.20) \times 100 = 101 \% \checkmark$$

MB: 500-604904/12-A 6/18/21 12:52 pgs:

$$\text{Average} = (856.4 + 848.4) / 2 = 852.4 \checkmark$$

$$Cx = (852 - 265.785) / 8162.412 = 0.072 \mu\text{g/L} \checkmark$$

500-201066-1 Mercury

LCS: 500-604904/13-A 6/18/21 12:54 pgs: 965, 907

$$\text{Average} = (18081.1 + 18091.8) / 2 = 18086 \checkmark$$

$$C_x = (18086 - 265.785) / 8162.412 = 2.183 \mu\text{g/L} \checkmark$$

$$2.183 \mu\text{g/L} \times \frac{25 \text{ mL}}{25 \text{ mL}} = 2.183 \mu\text{g/L} \checkmark$$

Opening CCV: 6/18/21 13:11 500-604950/8 pg: 896, 965

$$\text{Average} = (8848.8 + 8857.2) / 2 = 8853 \checkmark$$

$$C_x = (8853 - 265.785) / 8162.412 = 1.052 \mu\text{g/L} \checkmark$$

CCB: 6/18/21 13:13 pgs: 965, 901

$$\text{Average} = (390.8 + 403.0) / 2 = 397 \checkmark$$

$$C_x = \frac{(397 - 265.785)}{8162.412} = 0.016 \mu\text{g/L} \checkmark$$

500-201066-1 Mercury

Sample: 500-201066-D-1-B 6/18/21 13:28 pgs: 965, 12

$$\text{Average} = (29.2 + 18.4) / 2 = 23.8 \checkmark$$

$$Cx = \frac{(24 - 265.785)}{8162.412} = -0.0296 \mu\text{g/L} \checkmark$$

Closing: 6/18/21 13:34 500-604950/91 pgs: 897, 966
CCV

$$\text{Average} = (9044.3 + 9033.2) / 2 = 9038.75 \checkmark$$

$$Cx = (9038.75 - 265.785) / 8162.412 = 1.079 \mu\text{g/L} \checkmark$$

$$\% R = (1.08 / 1.0) \times 100 = 108\% \checkmark$$

Closing: 6/18/21 13:36 500-604950/92 pg: 901, 966
CCB

$$\text{Average} = (393.7 + 412.4) / 2 = 403 \checkmark$$

$$Cx = \frac{(403 - 265.785)}{8162.412} = 0.017 \mu\text{g/L} \checkmark$$

500-201066-1 Mercury

Adjusted : RCF-UP-1-210617

RL / MDL

$$RL: 0.00020 \text{ mg/L} \times \left(\frac{25 \text{ mL}}{25 \text{ mL}} \right) \times \left(\frac{25 \text{ mL}}{25 \text{ mL}} \right) \times DFI = 0.00020 \text{ mg/L}$$

$$MDL: 0.000098 \text{ mg/L} \times \left(\frac{25 \text{ mL}}{25 \text{ mL}} \right) \times \left(\frac{25 \text{ mL}}{25 \text{ mL}} \right) \times DFI = 0.000098 \text{ mg/L}$$

Report: 500-201066-1

Initial Calibration

Mercury

6/18/2021

CVAA

Page: 961

Standard #1	Rep#1	Rep#2
μAbs	1825.5	1832.2

Average μAbs

1829



Concentration (μg/L)	mean μAbsorbance
0.0	348
0.2	1829
0.5	4221
1.0	8515
3.0	24794
5.0	41074
10.0	81878

Slope:

8162.380



Intercept:

265.730

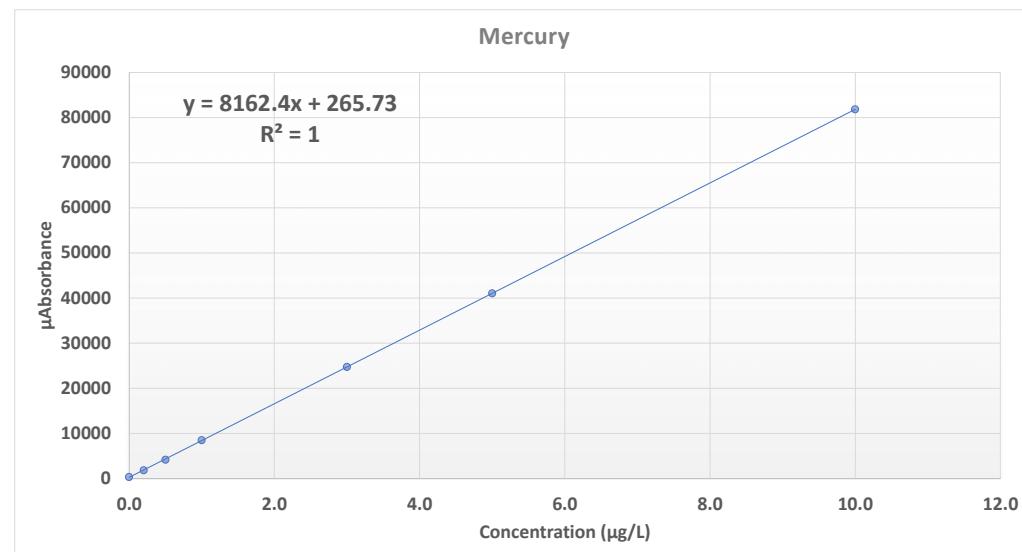


r:

1.00000

r²:

0.99999



500-201060-1 VOC

8FB: 500-604830/1 6/18/21 08:46 pgs: 458-460

$$\frac{\text{Mass 96}}{\text{Mass 95}} = \frac{1564}{23152} \times 100 = 6.8\% \quad \checkmark$$

ICU: 500-53268/22 pgs 422-426
Chloroethane = 1.0%

$$\frac{120946 \times 50 \mu\text{g/L}}{584515 \times 50 \mu\text{g/L}} = 0.2070 \quad \checkmark$$

$$\frac{0.2070 - 0.2048}{0.2048} \times 100 = 1.0\% \quad \checkmark$$

SW 6/29/21

CCU: 500-532604830/2 6/18/21 09:27 pgs: 438-442, 458
benzene = -5.0%

$$\left[\frac{437902}{694422} \right] \times 50 \mu\text{g/L} = 0.1775 \quad \checkmark$$

$$= 47.5 \mu\text{g/L}$$

$$\frac{47.5 - 50.0}{50.0} \times 100 = -5.0\% \quad \checkmark$$

(1)

500-201066-1 VOC

LCS: 500-604820/4 6/18/21 10:23 pgs: 28, 468, 258
Chloroform = 87%, 0.0434 mg/L

$$\frac{313670 \times 50 \text{ ug/L}}{718844 \times 0.5032} = \frac{43.4 \text{ ug/L}}{1000 \text{ mg}} \times 1 \text{ mg} = 0.0434 \text{ mg/L}$$

$$\frac{0.0434 \text{ mg/L}}{0.050 \text{ mg/L}} \times 100\% = 86.7\%$$

Surrogate: RCF-UP-1-210617 pgs: 26, 232, 234, 261
4-bromofluorobenzene = 94%

$$\frac{250353 \times 50 \text{ ug/L}}{268653 \times 0.9944} = 46.8 \text{ ug/L}$$

$$\left[\frac{46.8 \text{ ug/L}}{50.0 \text{ ug/L}} \right] \times 100 = 93.7\%$$

Internal Standard: RCF-TB-210617 pgs: 26, 277, 350 BW 7/8/21
227, 240

BW 6/29/21 Fluorobenzene: $\frac{641056}{640264} \times 100 = 100\%$

$$ZRT = |6.74 - 6.76| = 0.02$$

500-201066-1 VOC

Sample: All Non-defects

RCF-UP-1-210617

Adjusted : Acetone unadjusted RL = 0.01 mg/L

R_b/mL

$$0.01 \text{ mg/L} \times \left(\frac{5 \text{ mL}}{5 \text{ mL}} \right) \times \text{DFI} = 0.01 \text{ mg/L}$$

pgs: 9, 23 ✓

Acetone unadjusted MDL = 0.0017 mg/L ✓

$$0.0017 \text{ mg/L} \times \left(\frac{5 \text{ mL}}{5 \text{ mL}} \right) \times \text{DFI} = 0.0017 \text{ mg/L}$$

Report: 500-201066-1

VOC - Initial Calibration

3/6/2020

GC-MS Instrument CMS02

1,1-dichloroethene

Page: 256-360

Level	1	2	3	4	5	6	7	8
Concentration ($\mu\text{g/L}$)	1.0	2.0	5.0	20.0	50.0	100.0	150.0	200.0
1,1-dichloroethene Response	4406	7182	17272	67348	180901	350263	532282	702123
Fluorobenzene ($\mu\text{g/L}$)	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Fluorobenzene Response	701560	643831	625702	623191	640514	640264	612828	649044
RF	0.3140	0.2789	0.2760	0.2702	0.2824	0.2735	0.2895	0.2704

Std Dev: 0.0145

Mean Rf: 0.2819



%RSD: 5.1



Level 1: 1.0 $\mu\text{g/L}$ RF Check

1,1-dichloroethene = 4406 Concentration = 1.0 Units = $\mu\text{g/L}$ Page = 283

Fluorobenzene (IS)* = 701560 50.0 $\mu\text{g/L}$ 284

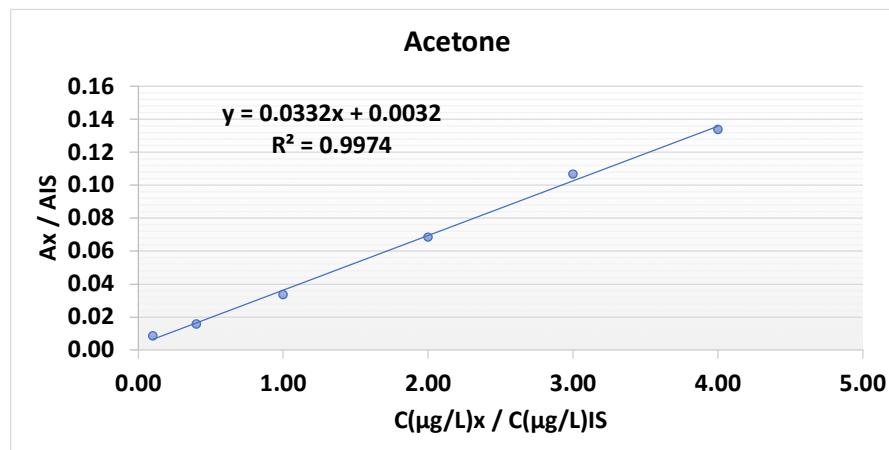
4406	x	50	=	0.314	
701560	x	1.0			

*(IS) = internal standard

Acetone

$C(\mu\text{g/L})_x / C(\mu\text{g/L})_{IS}$	A_x / A_{IS}
0.1000	0.0086
0.4000	0.0158
1.0000	0.0337
2.0000	0.0685
3.0000	0.1068
4.0000	0.1338

Slope*: 0.0332
 Intercept*: 0.0032
 r: 0.99870
 r²: 0.99739



*The laboratory used inverse concentration weighting, but the reproduced linear regression was recalculated without weighting

STAGE 3 DATA VALIDATION RECALCULATIONS
Data Package Number: 500-201066-1

Validation Element	Objective	Sample ID, Run Date, and Run Time	Results (include units) and Notes (Use check mark to indicate correct result; include hand-calculated result if performed)
Initial Calibration	Confirm (in ICP raw data) that an initial calibration begins each analytical sequence, before all QC or env. samples are analyzed, using the correct number of standards (and calibration blank, if required).	6/18/2021	✓
	Confirm (in ICP raw data) that an initial calibration occurs at the required frequency.		✓
SHOW ALL WORK FOR RECALCULATIONS			
ICV	Check result: Ba	500-604959/7	Ba: Form: 194 µg/L raw: 194.043 µg/L
	Recalculate one %R	06/18/2021 14:07 page: 894, 950	Calculated result:*** $\frac{194.043}{200.0} * 100 = 97.1 \%$
ICB	Check result: Li	500-604959/8 06/18/2021 14:10 page: 900, 945	Form: 0.575 µg/L raw: 0.575 µg/L
CRI Check Standard	Check result: As	500-604959/12	As: Form: 1.71 µg/L raw: 1.710 µg/L
	Recalculate one %R	06/18/2021 14:24 page: 898, 948	Calculated result:*** $\frac{1.71}{2.00} * 100 = 85.5 \%$
An opening CCV applicable to our samples	Check result: Cu	500-604959/13	Cu: Form: 250 µg/L raw: 249.685 µg/L
	Recalculate one %R	06/18/2021 23:15 page: 894, 948	Calculated result:*** $\frac{249.685}{250.0} * 100 = 99.9 \%$

STAGE 3 DATA VALIDATION RECALCULATIONS
Data Package Number: 500-201066-1

Validation Element	Objective	Sample ID, Run Date, and Run Time	Results (include units) and Notes (Use check mark to indicate correct result; include hand-calculated result if performed)	
A closing CCV applicable to our samples	Check result: Se	500-604959/20	Se: Form: 244 µg/L raw: 244.388 µg/L	✓
	Recalculate one %R	06/18/2021 14:51 page: 894, 949	Calculated result:*** $\frac{244.388}{250.0} * 100 = 97.8 \%$	✓
An opening CCB applicable to our samples	Check result: Be	500-604959/14 06/18/2021 14:31 page: 900, 945	Be: Form: <1.0 µg/L raw: 0.277 µg/L	✓
A closing CCB applicable to our samples	Check result: Cd	500-604959/21 06/18/2021 14:55 page: 900, 950	Cd: Form: <0.50 µg/L raw: <0.000 µg/L	✓
Method blank	Check result: Cr	500-604856/1-A 06/18/2021 page: 34, 930	Calculated result:*	✓
ICSA sample	Check result: Ca	500-604959/10	Ca: Form: 101424 µg/L raw: 101423.694 µg/L	✓
	Recalculate one %R	06/18/2021 14:17 page: 904, 946	Calculated result:*** $\frac{101423.694}{100000} * 100 = 101.4 \%$	✓
ICSAB sample	Check result: Sb	500-604959/11	Sb: Form: 11.2 µg/L raw: 11.165 µg/L	✓
	Recalculate one %R	06/18/2021 14:21 page: 905, 950	Calculated result:*** $\frac{11.165}{10.0} * 100 = 111.7 \%$	✓

STAGE 3 DATA VALIDATION RECALCULATIONS
Data Package Number: 500-201066-1

Validation Element	Objective	Sample ID, Run Date, and Run Time	Results (include units) and Notes (Use check mark to indicate correct result; include hand-calculated result if performed)
LCS	Check result: Mg	500-604856/2-A	<p>Calculated result:*</p> $\frac{\left(\frac{26176403.78}{212662.89}\right) - 0.1936}{0.0120} * 1.0 \text{ ppb} = 10241.26 \text{ ppb}$ $\frac{(10241.26 \mu\text{g/L})(50 \text{ mL})(1 \text{ mg})}{(50 \text{ mL})(1000 \mu\text{g})} = 10.2 \text{ mg/L}$
	Recalculate one %R	06/18/2021 14:38 page: 35, 922, 927, 946	<p>Calculated result:***</p> $\frac{10.2}{10.0} * 100 = 102 \%$
Sample result for ___Fe___	Check result: RCF-UP-1-210617	500-201066-1 06/18/2021 14:41 page: 12, 948, 931, 952	<p>Calculated result:*</p> $\frac{\left(\frac{3701451.82}{213254.46}\right) - 0.9899}{0.0917} * 1.0 \text{ ppb} = 178.48498 \text{ ppb}$ $\frac{(178.48498 \mu\text{g/L})(50 \text{ mL})(1 \text{ mg})}{(50 \text{ mL})(1000 \mu\text{g})} = 0.18 \text{ mg/L}$
MDL for ___Cu___	Check result: RCF-UP-1-210617	500-201066-1 06/18/2021 14:41 page: 12, 25	<p>Calculated result:*</p> $\frac{(0.000050 \text{ mg/L})(50 \text{ mL})(50 \text{ mL})}{(50 \text{ mL})(50 \text{ mL})(0.10 \text{ L})} = 0.00050 \text{ mg/L}$
RL for ___Be___	Check result: RCF-UP-1-210617	500-201066-1 06/18/2021 14:41 page: 12, 25	<p>Calculated result:*</p> $\frac{(0.0020 \text{ mg/L})(50 \text{ mL})(50 \text{ mL})}{(50 \text{ mL})(50 \text{ mL})(0.10 \text{ L})} = 0.0020 \text{ mg/L}$

Formulas:

* Conc. (mg/kg) = {(Raw Conc. in ug/L) x (Vol. in L) x DF} / {({Sample mass in kg) x (fractional solids) x (1000)}}

** Serial dilution conc. (ug/L) = (Raw Conc. in ug/L) x (DF, typically 5)

*** %R = [(Measured Value) / (True Value)] x 100

**** %R = {[Spike sample result] - (Sample result)} / (Spike added) x 100

RPD = [(A-B) / {(A + B)/2}] x 100

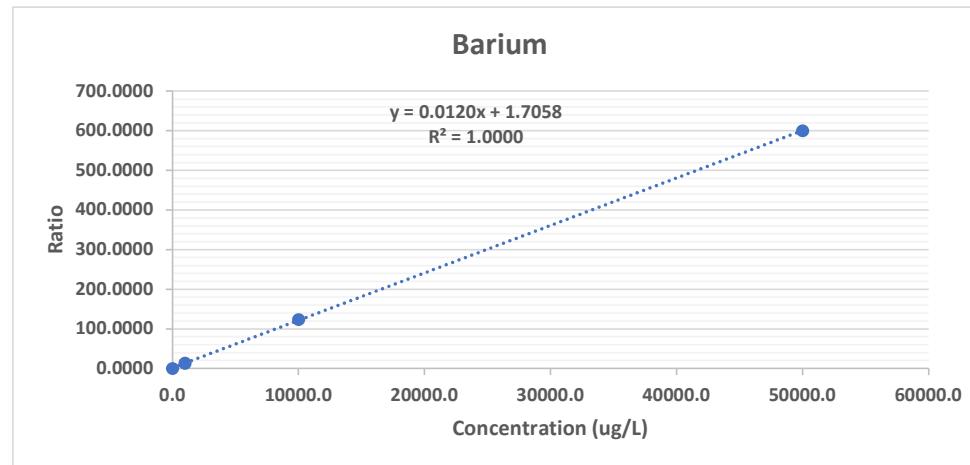
Percent difference = [(Original Result - Diluted Result) / Original Result] x 100

Report: 500-201066-1

Metals Initial Calibration

ICP-MS	24 Mg	45 Sc [He]	
Level (µg/L)	CPS	CPS	Ratio
0.0	39052.54	201762.52	0.1936
1000.0	2889026.31	219575.3	13.1573
10000.0	26837847.93	216437.43	123.9982
50000.0	130204091.3	217003.68	600.0087

Slope: 1.1976E-02
Intercept: 1.7058E+00
r: 1.0000
r²: 1.0000



Tune	1/15/2020	13:23	pg 759						
[He]	Replicate #1	Replicate #2	Replicate #3	Replicate #4	Replicate #5	Average	Std Dev	%RSD	
Mass 59	2228	2181	2196	2124	2163	2178.4	38.6432	1.77%	✓
Mass 89	2467	2395	2395	2399	2408	2412.8	30.7604	1.27%	✓
Mass 205	2302	2248	2197	2214	2189	2230	46.1898	2.07%	✓
[No Gas]	Replicate #1	Replicate #2	Replicate #3	Replicate #4	Replicate #5	Average	Std Dev	%RSD	
Mass 7	1551	1576	1556	1563	1547	1558.6	11.4149	0.73%	✓
Mass 89	5553	5518	5504	5501	5503	5515.8	21.8563	0.40%	✓
Mass 205	2828	2818	2852	2872	2882	2850.4	27.4736	0.96%	✓

Internal Standard

500-201066-d-1-a

Page: 952

Internal Standard	CPS	Ref CPS	%Recovery CPS to Ref CPS
45 Sc [He]	213254.46	201762.52	105.7% ✓

500-201060-1 SVOC

DFTRP: 500-604991 / 1 6/18/21 16:09 pgs: 834 - 842

$$\frac{\text{Mass } 197}{\text{Mass } 198} = \frac{6643}{1079808} \times 100 = 0.6\% \quad \checkmark$$

DDT Breakdown

$$\frac{1175 + 24969}{1175 + 24969 + 1332346} \times 100 = 1.92\% \quad \checkmark$$

Pentachlorophenol failing : $\frac{0.007}{0.012} = 0.58 \quad \checkmark$

Benzidine failing : $\frac{0.019}{0.020} = 0.95 \quad \checkmark$

Resolution : 500-604991 / 2 6/18/21 16:32 pgs: 788-789

$$\left[\frac{276143}{(991281 + 1526987)} \right] \times 100 = 21.9\% \quad \checkmark$$

IOW: 500-604993 / 3 6/17/21 16:53 pgs: 790, 69, 704
2-chlorophenol = -0.0%

$$Cx = \left[\frac{(1559023)}{245124} \times 3.2 \mu\text{g/mL} \right] - (-1.389) = 9.99 = 10.0 \mu\text{g/mL}$$

2.146

$$\frac{9.99 - 10.0}{10.0} \times 100 = -0.09\% \quad \checkmark$$

(1)

500-201066-1 SVOC

MB:

500-604851/1-A 6/8/21 18:59 pgs: 30, 776, 847
bis (2-ethylhexyl) phthalate = 0.00207 mg/L 624

BW 7/8/21

$$C_x = \frac{-b \pm \sqrt{b^2 + 4 \cdot a \left[\left(\frac{A_x \cdot C_{1S}}{A_{1S}} \right) - C \right]}}{2a}$$

$$C_x = \frac{-0.6735 \pm \sqrt{(0.6735)^2 + 4(0.063381) \left[\left(\frac{60403 \cdot 3.2 \mu\text{g/mL}}{587264} \right) - (-0.03708) \right]}}{2 \cdot (0.063381)}$$

$$C_x = 0.5184703478 \mu\text{g/mL} \quad \checkmark$$

$$\frac{0.51847 \mu\text{g/mL}}{250 \text{ mL}} \times 1 \text{ mL} = 0.00207 \mu\text{g/mL}$$

$$= 0.00207 \text{ mg/L}$$

(2)

500-201066-1 SUOC

LCS : 500-604851/2-A
6/18/21 17:47

PFS: 624, 866, 32, 884

benzo(a)anthracene = 117%, 0.0376 mg/L

BW
6/29/21

$$\frac{2448159 \times 3.2 \frac{\mu\text{g}}{\text{mL}}}{741404 \times 1.2619} = 9.40 \mu\text{g/mL} \quad \checkmark$$

$$\frac{9.40 \mu\text{g/mL} \times 1\text{mL}}{250 \text{mL}} = 0.0376 \text{mg/L} \quad \checkmark$$

$$[0.0376 \text{mg/L} / 0.0320 \text{mg/L}] \times 100 = 117 \%$$

LCS Dup: 500-604851/3-A

6/18/21 18:11

PFS: 841-876, 33

benzo(a)anthracene = 121%, 0.0386 mg/L

$$\frac{2826020 \times 3.2 \mu\text{g/mL}}{5412166 \times 1.2619} = 9.66 \mu\text{g/mL} \quad \checkmark$$

$$\frac{9.66 \mu\text{g/mL} \times 1\text{mL}}{250 \text{mL}} = 0.0386 \text{mg/L} \quad \checkmark$$

$$\frac{0.0386 \text{mg/L}}{0.032 \text{mg/L}} \times 100 = 120.7 \%$$

(3)

500-201066-1 SVOC

LCS
LCSD:

$$\text{RPD: } \left[\frac{9.66 - 9.40}{\left(\frac{9.66 + 9.40}{2} \right)} \right] \times 100 = 2.7\%$$

Internal Standard: RCF-UP-1-210617

pgs: 509, 799, 503

~~an~~aphthene
BW 6/29/21

$$\text{Acenaphthene-d10: } \frac{486027}{524551} \times 100 = 93\%$$

$$\Delta RT = |7.21 - 7.215| = 0.005$$

CCU: 500-604941/2 6/18/21 16:32 pgs: 598, 623, 799
4-nitro aniline = 4.6%

$$\frac{\left[\left(\frac{4749445}{524551} \right) \times 3.2 \mu\text{g/mL} \right] - 1.064}{0.4629} = 4.32 \mu\text{g/mL}$$

$$\frac{4.32 \mu\text{g/mL} - 4.0 \mu\text{g/mL}}{7.0 \mu\text{g/mL}} \times 100 = 4.6\%$$

500-201066-1 8UOC

Sample: RCF-SP-2-210614 pgs: 20, 622, 575
diethyl phthalate = 0.0020 mg/L 884

$$\frac{\left[\frac{1292}{291671} \times 3.2 \text{ } \mu\text{g/mL} \right] - (-1.218)}{2.5793} = 0.4754 \text{ } \mu\text{g/mL}$$

$$\frac{0.4754 \text{ } \mu\text{g/mL} \times 1\text{mL} \times 1000\text{mL}^{1/\text{mg}}}{236.2 \text{ mL} \times \text{tmt 1L} \times 1000\text{mg}} = 0.0020 \text{ mg/L}$$

Surrogate: RCF-SP-1-210614 pgs: 26, 717, 625, 531
Nitrobenzene = 79%

$$C_x = -0.1986 \pm \sqrt{(0.1986)^2 + 4(0.0146058) \left[\frac{(627136 \times 3.2 \text{ } \mu\text{g/mL})}{811649} - (-0.0007209) \right]} \\ 2 \cdot (0.0146058)$$

$$C_x = 7.88316 \text{ } \mu\text{g/mL}$$

$$\frac{7.88 \text{ } \mu\text{g/mL}}{10.0 \text{ } \mu\text{g/mL}} \times 100 = 78.9\%$$

500-201066-1 SVOC

Adjusted RL/MDL : RCF-SP-1-210617 PGS: 24,884,17

Unadjusted anthracene RL = 0.00080 mg/L
MDL = 0.00027 mg/L

Adjusted anthracene RL:

$$0.00080 \text{ mg/L} \times \frac{(250 \text{ mL})}{(247.9 \text{ mL})} \times \frac{(1 \text{ mL})}{(1 \text{ mL})} \times \text{DF1} = 0.00081 \text{ mg/L}$$

Adjusted anthracene MDL:

$$0.00027 \text{ mg/L} \times \frac{(250 \text{ mL})}{(247.9 \text{ mL})} \times \frac{(1 \text{ mL})}{(1 \text{ mL})} \times \text{DF1} = 0.00027 \text{ mg/L}$$

Report: 500-201066-1

SVOC - Initial Calibration

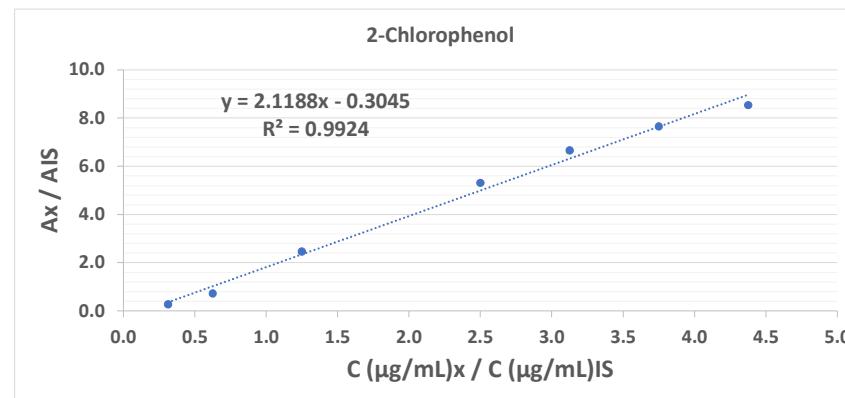
6/17/2021

GC-MS Instrument VMS4

2-Chlorophenol

Page: 619-682

C ($\mu\text{g/mL}$) _x	C ($\mu\text{g/mL}$) _{IS}	C($\mu\text{g/mL}$) _x /C($\mu\text{g/mL}$) _{IS}	A _x	A _{IS}	A _x /A _{IS}	RF
1.0	3.2	0.3125	57546	208359	0.2762	0.8838
2.0	3.2	0.6250	145505	199848	0.7281	1.1649
4.0	3.2	1.2500	560519	227304	2.4659	1.9728
8.0	3.2	2.5000	1394172	262310	5.3150	2.1260
10.0	3.2	3.1250	1751937	262964	6.6623	2.1319
12.0	3.2	3.7500	2035929	266005	7.6537	2.0410
14.0	3.2	4.3750	2404215	281641	8.5365	1.9512



*The laboratory used inverse concentration weighting, but the reproduced linear regression was recalculated without weighting

Report: 500-201066-1

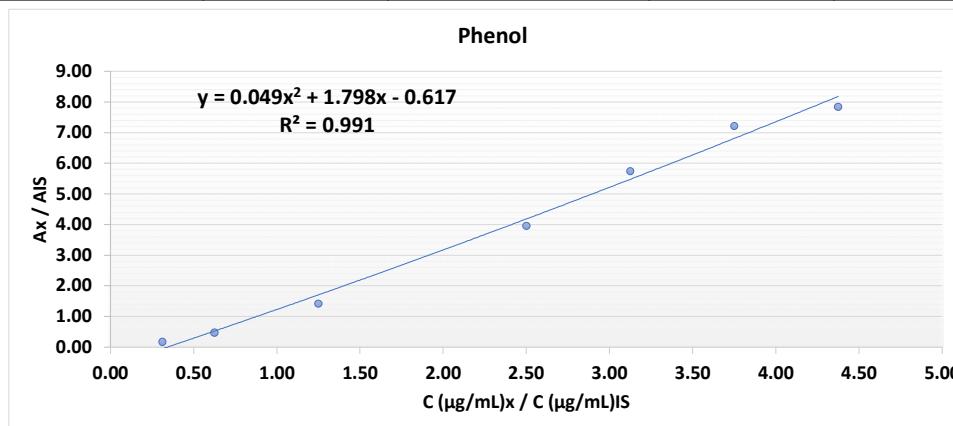
SVOC - Initial Calibration

6/17/2021

Phenol

Page: 618-682

C ($\mu\text{g/mL}$)x	C ($\mu\text{g/mL}$)IS	$C(\mu\text{g/mL})_x / C(\mu\text{g/mL})_{\text{IS}}$	A_x	A_{IS}	A_x/A_{IS}	RF
1.0	3.2	0.3125	36825	208359	0.1767	0.566
2.0	3.2	0.6250	94466	199848	0.4727	0.756
4.0	3.2	1.2500	322933	227304	1.4207	1.137
8.0	3.2	2.5000	1038649	262310	3.9596	1.584
10.0	3.2	3.1250	1511183	262964	5.7467	1.839
12.0	3.2	3.7500	1919651	266005	7.2166	1.924
14.0	3.2	4.3750	2208916	281641	7.8430	1.793



*The laboratory used inverse concentration squared weighting, but the reproduced quadratic regression was recalculated without weighting

CHEMTOOL FIRE SITE - RS WATER ANALYTICAL RESULTS SUMMARY
EUROFINS TESTAMERICA REPORT NO. 500-201066-1

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
RCF-SP-1-210617	6020A	Aluminum	0.18	0.025	0.1	mg/L	0.18		
RCF-SP-1-210617	6020A	Antimony	0.0013 U	0.0013	0.003	mg/L	0.0030 U		
RCF-SP-1-210617	6020A	Arsenic	0.0021	0.00023	0.001	mg/L	0.0021 J-		
RCF-SP-1-210617	6020A	Barium	0.051	0.00073	0.0025	mg/L	0.051		
RCF-SP-1-210617	6020A	Beryllium	0.00053 U	0.00053	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	6020A	Cadmium	0.00017 U	0.00017	0.0005	mg/L	0.00050 U		
RCF-SP-1-210617	6020A	Calcium	58	0.044	0.2	mg/L	58		
RCF-SP-1-210617	6020A	Chromium	0.0011 U	0.0011	0.005	mg/L	0.0050 U		
RCF-SP-1-210617	6020A	Cobalt	0.00043 J	0.0004	0.001	mg/L	0.00043 J+		
RCF-SP-1-210617	6020A	Copper	0.0018 J	0.0005	0.002	mg/L	0.0018 J		
RCF-SP-1-210617	6020A	Iron	0.42	0.047	0.1	mg/L	0.42		
RCF-SP-1-210617	6020A	Lead	0.0013	0.00019	0.0005	mg/L	0.0013		
RCF-SP-1-210617	6020A	Lithium	0.0028	0.0005	0.002	mg/L	0.0028 J+		
RCF-SP-1-210617	6020A	Magnesium	42	0.049	0.2	mg/L	42		
RCF-SP-1-210617	6020A	Manganese	0.18	0.00079	0.0025	mg/L	0.18		
RCF-SP-1-210617	6020A	Nickel	0.0019 J	0.00063	0.002	mg/L	0.0019 J		
RCF-SP-1-210617	6020A	Potassium	3.8	0.11	0.5	mg/L	3.8		
RCF-SP-1-210617	6020A	Selenium	0.00098 U	0.00098	0.0025	mg/L	0.0025 U		
RCF-SP-1-210617	6020A	Silver	0.00012 U	0.00012	0.0005	mg/L	0.00050 U		
RCF-SP-1-210617	6020A	Sodium	37	0.077	0.2	mg/L	37		
RCF-SP-1-210617	6020A	Thallium	0.00057 U	0.00057	0.002	mg/L	0.0020 U		
RCF-SP-1-210617	6020A	Vanadium	0.0071	0.0022	0.005	mg/L	0.0071 J-		
RCF-SP-1-210617	6020A	Zinc	0.014 J	0.0069	0.02	mg/L	0.014 J		
RCF-SP-1-210617	7470A	Mercury	0.000098 U	0.000098	0.0002	mg/L	0.00020 U		
RCF-SP-1-210617	8260B	1,1,1-Trichloroethane	0.00038 U	0.00038	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	1,1,2,2-Tetrachloroethane	0.0004 U	0.0004	0.001	mg/L	0.0010 UJ		
RCF-SP-1-210617	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.00046 U	0.00046	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	1,1,2-Trichloroethane	0.00035 U	0.00035	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	1,1-Dichloroethane	0.00041 U	0.00041	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	1,1-Dichloroethene	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	1,2,4-Trichlorobenzene	0.00034 U	0.00034	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	1,2-Dibromo-3-Chloropropane	0.002 U	0.002	0.005	mg/L	0.0050 U		
RCF-SP-1-210617	8260B	1,2-Dibromoethane	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	1,2-Dichlorobenzene	0.00033 U	0.00033	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	1,2-Dichloroethane	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	1,2-Dichloropropane	0.00043 U	0.00043	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	1,3-Dichlorobenzene	0.0004 U	0.0004	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	1,4-Dichlorobenzene	0.00036 U	0.00036	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	2-Hexanone	0.0016 U	0.0016	0.005	mg/L	0.0050 U		
RCF-SP-1-210617	8260B	Acetone	0.0017 U	0.0017	0.01	mg/L	0.010 U		

CHEMTOOL FIRE SITE - RS WATER ANALYTICAL RESULTS SUMMARY
EUROFINS TESTAMERICA REPORT NO. 500-201066-1

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
RCF-SP-1-210617	8260B	Benzene	0.00015 U	0.00015	0.0005	mg/L	0.00050 U		
RCF-SP-1-210617	8260B	Bromodichloromethane	0.00037 U	0.00037	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	Bromoform	0.00048 U *-	0.00048	0.001	mg/L	0.0010 UJ		
RCF-SP-1-210617	8260B	Bromomethane	0.0008 U	0.0008	0.003	mg/L	0.0030 U		
RCF-SP-1-210617	8260B	Carbon disulfide	0.00045 U	0.00045	0.002	mg/L	0.0020 U		
RCF-SP-1-210617	8260B	Carbon tetrachloride	0.00038 U	0.00038	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	Chlorobenzene	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	Chloroethane	0.00051 U	0.00051	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	Chloroform	0.00037 U	0.00037	0.002	mg/L	0.0020 U		
RCF-SP-1-210617	8260B	Chloromethane	0.00032 U	0.00032	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	cis-1,2-Dichloroethene	0.00041 U	0.00041	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	cis-1,3-Dichloropropene	0.00042 U	0.00042	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	Cyclohexane	0.00049 U	0.00049	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	Dibromochloromethane	0.00049 U *-	0.00049	0.001	mg/L	0.0010 UJ		
RCF-SP-1-210617	8260B	Dichlorodifluoromethane	0.00067 U	0.00067	0.003	mg/L	0.0030 U		
RCF-SP-1-210617	8260B	Ethylbenzene	0.00018 U	0.00018	0.0005	mg/L	0.00050 U		
RCF-SP-1-210617	8260B	Isopropylbenzene	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	Methyl acetate	0.002 U	0.002	0.005	mg/L	0.0050 U		
RCF-SP-1-210617	8260B	Methyl Ethyl Ketone	0.0021 U	0.0021	0.005	mg/L	0.0050 U		
RCF-SP-1-210617	8260B	methyl isobutyl ketone	0.0022 U	0.0022	0.005	mg/L	0.0050 U		
RCF-SP-1-210617	8260B	Methyl tert-butyl ether	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	Methylcyclohexane	0.00032 U	0.00032	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	Methylene Chloride	0.0016 U	0.0016	0.005	mg/L	0.0050 U		
RCF-SP-1-210617	8260B	Styrene	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	Tetrachloroethene	0.00037 U	0.00037	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	Toluene	0.00015 U	0.00015	0.0005	mg/L	0.00050 U		
RCF-SP-1-210617	8260B	trans-1,2-Dichloroethene	0.00035 U	0.00035	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	trans-1,3-Dichloropropene	0.00036 U	0.00036	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	Trichloroethene	0.00016 U	0.00016	0.0005	mg/L	0.00050 U		
RCF-SP-1-210617	8260B	Trichlorofluoromethane	0.00043 U	0.00043	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	Vinyl chloride	0.0002 U	0.0002	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B	Xylenes, Total	0.00022 U	0.00022	0.001	mg/L	0.0010 U		
RCF-SP-1-210617	8260B LibSch	Tentatively Identified Compound	None			mg/L		U	
RCF-SP-1-210617	8270D	1,1'-Biphenyl	0.00029 U	0.00029	0.004	mg/L	0.0040 U		
RCF-SP-1-210617	8270D	2,2'-oxybis[1-chloropropane]	0.00031 U	0.00031	0.0016	mg/L	0.0016 U		
RCF-SP-1-210617	8270D	2,4,5-Trichlorophenol	0.0021 U	0.0021	0.0081	mg/L	0.0081 U		
RCF-SP-1-210617	8270D	2,4,6-Trichlorophenol	0.00058 U	0.00058	0.004	mg/L	0.0040 U		
RCF-SP-1-210617	8270D	2,4-Dichlorophenol	0.0021 U	0.0021	0.0081	mg/L	0.0081 U		
RCF-SP-1-210617	8270D	2,4-Dimethylphenol	0.0015 U	0.0015	0.0081	mg/L	0.0081 U		
RCF-SP-1-210617	8270D	2,4-Dinitrophenol	0.0069 U	0.0069	0.016	mg/L	0.016 U		

CHEMTOOL FIRE SITE - RS WATER ANALYTICAL RESULTS SUMMARY
EUROFINS TESTAMERICA REPORT NO. 500-201066-1

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
RCF-SP-1-210617	8270D	2,4-Dinitrotoluene	0.0002	U	0.0002	0.00081	mg/L	0.00081	U
RCF-SP-1-210617	8270D	2,6-Dinitrotoluene	0.000059	U	0.000059	0.00081	mg/L	0.00081	U
RCF-SP-1-210617	8270D	2-Chloronaphthalene	0.00019	U	0.00019	0.0016	mg/L	0.0016	U
RCF-SP-1-210617	8270D	2-Chlorophenol	0.00045	U	0.00045	0.004	mg/L	0.0040	U
RCF-SP-1-210617	8270D	2-Methylnaphthalene	0.000053	U *1	0.000053	0.0016	mg/L	0.0016	U
RCF-SP-1-210617	8270D	2-Methylphenol	0.00025	U	0.00025	0.0016	mg/L	0.0016	U
RCF-SP-1-210617	8270D	2-Nitroaniline	0.001	U	0.001	0.004	mg/L	0.0040	U
RCF-SP-1-210617	8270D	2-Nitrophenol	0.002	U	0.002	0.0081	mg/L	0.0081	U
RCF-SP-1-210617	8270D	3 & 4 Methylphenol	0.00036	U	0.00036	0.0016	mg/L	0.0016	U
RCF-SP-1-210617	8270D	3,3'-Dichlorobenzidine	0.0014	U	0.0014	0.004	mg/L	0.0040	U
RCF-SP-1-210617	8270D	3-Nitroaniline	0.0014	U	0.0014	0.0081	mg/L	0.0081	U
RCF-SP-1-210617	8270D	4,6-Dinitro-2-methylphenol	0.0048	U	0.0048	0.016	mg/L	0.016	U
RCF-SP-1-210617	8270D	4-Bromophenyl phenyl ether	0.00044	U	0.00044	0.004	mg/L	0.0040	U
RCF-SP-1-210617	8270D	4-Chloro-3-methylphenol	0.0019	U	0.0019	0.0081	mg/L	0.0081	U
RCF-SP-1-210617	8270D	4-Chloroaniline	0.0016	U	0.0016	0.0081	mg/L	0.0081	U
RCF-SP-1-210617	8270D	4-Chlorophenyl phenyl ether	0.00051	U	0.00051	0.004	mg/L	0.0040	U
RCF-SP-1-210617	8270D	4-Nitroaniline	0.0013	U	0.0013	0.0081	mg/L	0.0081	U
RCF-SP-1-210617	8270D	4-Nitrophenol	0.006	U	0.006	0.016	mg/L	0.016	U
RCF-SP-1-210617	8270D	Acenaphthene	0.00025	U	0.00025	0.00081	mg/L	0.00081	U
RCF-SP-1-210617	8270D	Acenaphthylene	0.00022	U	0.00022	0.00081	mg/L	0.00081	U
RCF-SP-1-210617	8270D	Acetophenone	0.00054	U	0.00054	0.004	mg/L	0.0040	U
RCF-SP-1-210617	8270D	Anthracene	0.00027	U	0.00027	0.00081	mg/L	0.00081	U
RCF-SP-1-210617	8270D	Atrazine	0.0005	U *+	0.0005	0.004	mg/L	0.0040	U
RCF-SP-1-210617	8270D	Benzaldehyde	0.012	U	0.012	0.032	mg/L	0.032	U
RCF-SP-1-210617	8270D	Benzo[a]anthracene	0.000046	U	0.000046	0.00016	mg/L	0.00016	U
RCF-SP-1-210617	8270D	Benzo[a]pyrene	0.00008	U	0.00008	0.00016	mg/L	0.00016	U
RCF-SP-1-210617	8270D	Benzo[b]fluoranthene	0.000065	U	0.000065	0.00016	mg/L	0.00016	U
RCF-SP-1-210617	8270D	Benzo[g,h,i]perylene	0.0003	U	0.0003	0.00081	mg/L	0.00081	U
RCF-SP-1-210617	8270D	Benzo[k]fluoranthene	0.000052	U	0.000052	0.00016	mg/L	0.00016	U
RCF-SP-1-210617	8270D	Bis(2-chloroethoxy)methane	0.00023	U	0.00023	0.0016	mg/L	0.0016	U
RCF-SP-1-210617	8270D	Bis(2-chloroethyl)ether	0.00024	U	0.00024	0.0016	mg/L	0.0016	U
RCF-SP-1-210617	8270D	Bis(2-ethylhexyl) phthalate	0.0014	U	0.0014	0.0081	mg/L	0.0081	U
RCF-SP-1-210617	8270D	Butyl benzyl phthalate	0.00039	U	0.00039	0.0016	mg/L	0.0016	U
RCF-SP-1-210617	8270D	Caprolactam	0.0012	U	0.0012	0.0081	mg/L	0.0081	U
RCF-SP-1-210617	8270D	Carbazole	0.00029	U *+	0.00029	0.004	mg/L	0.0040	UJ
RCF-SP-1-210617	8270D	Chrysene	0.000055	U	0.000055	0.00016	mg/L	0.00016	U
RCF-SP-1-210617	8270D	Dibenz(a,h)anthracene	0.000041	U	0.000041	0.00024	mg/L	0.00024	U
RCF-SP-1-210617	8270D	Dibenzofuran	0.00021	U	0.00021	0.0016	mg/L	0.0016	U
RCF-SP-1-210617	8270D	Diethyl phthalate	0.0019	J	0.00029	0.004	mg/L	0.0019	J
RCF-SP-1-210617	8270D	Dimethyl phthalate	0.00025	U	0.00025	0.004	mg/L	0.0040	U

CHEMTOOL FIRE SITE - RS WATER ANALYTICAL RESULTS SUMMARY
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Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
RCF-SP-1-210617	8270D	Di-n-butyl phthalate	0.00059	U	0.00059	0.004	mg/L	0.0040	U
RCF-SP-1-210617	8270D	Di-n-octyl phthalate	0.00085	U *+	0.00085	0.0081	mg/L	0.0081	U
RCF-SP-1-210617	8270D	Fluoranthene	0.00037	U	0.00037	0.00081	mg/L	0.00081	U
RCF-SP-1-210617	8270D	Fluorene	0.0002	U	0.0002	0.00081	mg/L	0.00081	U
RCF-SP-1-210617	8270D	Hexachlorobenzene	0.000064	U	0.000064	0.0004	mg/L	0.00040	U
RCF-SP-1-210617	8270D	Hexachlorobutadiene	0.00042	U *1	0.00042	0.004	mg/L	0.0040	U
RCF-SP-1-210617	8270D	Hexachlorocyclopentadiene	0.0051	U *1	0.0051	0.016	mg/L	0.016	U
RCF-SP-1-210617	8270D	Hexachloroethane	0.00048	U *1	0.00048	0.004	mg/L	0.0040	U
RCF-SP-1-210617	8270D	Indeno[1,2,3-cd]pyrene	0.00006	U	0.00006	0.00016	mg/L	0.00016	U
RCF-SP-1-210617	8270D	Isophorone	0.0003	U	0.0003	0.0016	mg/L	0.0016	U
RCF-SP-1-210617	8270D	Naphthalene	0.00025	U	0.00025	0.00081	mg/L	0.00081	U
RCF-SP-1-210617	8270D	Nitrobenzene	0.00036	U	0.00036	0.00081	mg/L	0.00081	U
RCF-SP-1-210617	8270D	N-Nitrosodi-n-propylamine	0.00012	U	0.00012	0.0004	mg/L	0.00040	U
RCF-SP-1-210617	8270D	N-Nitrosodiphenylamine	0.0003	U	0.0003	0.0016	mg/L	0.0016	U
RCF-SP-1-210617	8270D	Pentachlorophenol	0.0032	U	0.0032	0.016	mg/L	0.016	U
RCF-SP-1-210617	8270D	Phenanthrene	0.00024	U	0.00024	0.00081	mg/L	0.00081	U
RCF-SP-1-210617	8270D	Phenol	0.00054	U	0.00054	0.004	mg/L	0.0040	U
RCF-SP-1-210617	8270D	Pyrene	0.00034	U	0.00034	0.00081	mg/L	0.00081	U
RCF-SP-1-210617	8270D LibSch	1-Decene	0.35	T J N			mg/L	0.35	NJ
RCF-SP-1-210617	8270D LibSch	Ethanol, 2-(2-butoxyethoxy)-	0.43	T J N			mg/L	0.43	NJ
RCF-SP-1-210617	8270D LibSch	Glycine, N-methyl-N-(1-oxododecyl)-	0.075	T J N			mg/L	0.075	NJ
RCF-SP-1-210617	8270D LibSch	Unknown	0.031	T J			mg/L	0.031	J
RCF-SP-1-210617	8270D LibSch	Unknown	0.058	T J			mg/L	0.058	J
RCF-SP-1-210617	8270D LibSch	Unknown	0.067	T J			mg/L	0.067	J
RCF-SP-1-210617	8270D LibSch	Unknown	0.0093	T J			mg/L	0.0093	J
RCF-SP-1-210617	8270D LibSch	Unknown	0.11	T J			mg/L	0.11	J
RCF-SP-1-210617	8270D LibSch	Unknown	0.045	T J			mg/L	0.045	J
RCF-SP-1-210617	8270D LibSch	Unknown	0.01	T J			mg/L	0.010	J
RCF-SP-2-210617	6020A	Aluminum	0.11		0.025	0.1	mg/L	0.11	
RCF-SP-2-210617	6020A	Antimony	0.0013	U	0.0013	0.003	mg/L	0.0030	U
RCF-SP-2-210617	6020A	Arsenic	0.0018		0.00023	0.001	mg/L	0.0018	J-
RCF-SP-2-210617	6020A	Barium	0.047		0.00073	0.0025	mg/L	0.047	
RCF-SP-2-210617	6020A	Beryllium	0.00053	U	0.00053	0.001	mg/L	0.0010	U
RCF-SP-2-210617	6020A	Cadmium	0.00017	U	0.00017	0.0005	mg/L	0.00050	U
RCF-SP-2-210617	6020A	Calcium	55		0.044	0.2	mg/L	55	
RCF-SP-2-210617	6020A	Chromium	0.0011	U	0.0011	0.005	mg/L	0.0050	U
RCF-SP-2-210617	6020A	Cobalt	0.0004	U	0.0004	0.001	mg/L	0.0010	U
RCF-SP-2-210617	6020A	Copper	0.0014	J	0.0005	0.002	mg/L	0.0014	J
RCF-SP-2-210617	6020A	Iron	0.24		0.047	0.1	mg/L	0.24	
RCF-SP-2-210617	6020A	Lead	0.00089		0.00019	0.0005	mg/L	0.00089	

CHEMTOOL FIRE SITE - RS WATER ANALYTICAL RESULTS SUMMARY
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Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
RCF-SP-2-210617	6020A	Lithium	0.0027	0.0005	0.002	mg/L	0.0027	J+	
RCF-SP-2-210617	6020A	Magnesium	40	0.049	0.2	mg/L	40		
RCF-SP-2-210617	6020A	Manganese	0.12	0.00079	0.0025	mg/L	0.12		
RCF-SP-2-210617	6020A	Nickel	0.0016 J	0.00063	0.002	mg/L	0.0016 J		
RCF-SP-2-210617	6020A	Potassium	3.7	0.11	0.5	mg/L	3.7		
RCF-SP-2-210617	6020A	Selenium	0.00098 U	0.00098	0.0025	mg/L	0.0025 U		
RCF-SP-2-210617	6020A	Silver	0.00012 U	0.00012	0.0005	mg/L	0.00050 U		
RCF-SP-2-210617	6020A	Sodium	37	0.077	0.2	mg/L	37		
RCF-SP-2-210617	6020A	Thallium	0.00057 U	0.00057	0.002	mg/L	0.0020 U		
RCF-SP-2-210617	6020A	Vanadium	0.0063	0.0022	0.005	mg/L	0.0063 J-		
RCF-SP-2-210617	6020A	Zinc	0.011 J	0.0069	0.02	mg/L	0.011 J		
RCF-SP-2-210617	7470A	Mercury	0.000098 U	0.000098	0.0002	mg/L	0.00020 U		
RCF-SP-2-210617	8260B	1,1,1-Trichloroethane	0.00038 U	0.00038	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	1,1,2,2-Tetrachloroethane	0.0004 U	0.0004	0.001	mg/L	0.0010 UJ		
RCF-SP-2-210617	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.00046 U	0.00046	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	1,1,2-Trichloroethane	0.00035 U	0.00035	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	1,1-Dichloroethane	0.00041 U	0.00041	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	1,1-Dichloroethene	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	1,2,4-Trichlorobenzene	0.00034 U	0.00034	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	1,2-Dibromo-3-Chloropropane	0.002 U	0.002	0.005	mg/L	0.0050 U		
RCF-SP-2-210617	8260B	1,2-Dibromoethane	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	1,2-Dichlorobenzene	0.00033 U	0.00033	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	1,2-Dichloroethane	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	1,2-Dichloropropane	0.00043 U	0.00043	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	1,3-Dichlorobenzene	0.0004 U	0.0004	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	1,4-Dichlorobenzene	0.00036 U	0.00036	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	2-Hexanone	0.0016 U	0.0016	0.005	mg/L	0.0050 U		
RCF-SP-2-210617	8260B	Acetone	0.0017 U	0.0017	0.01	mg/L	0.010 U		
RCF-SP-2-210617	8260B	Benzene	0.00015 U	0.00015	0.0005	mg/L	0.00050 U		
RCF-SP-2-210617	8260B	Bromodichloromethane	0.00037 U	0.00037	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	Bromoform	0.00048 U *-	0.00048	0.001	mg/L	0.0010 UJ		
RCF-SP-2-210617	8260B	Bromomethane	0.0008 U	0.0008	0.003	mg/L	0.0030 U		
RCF-SP-2-210617	8260B	Carbon disulfide	0.00045 U	0.00045	0.002	mg/L	0.0020 U		
RCF-SP-2-210617	8260B	Carbon tetrachloride	0.00038 U	0.00038	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	Chlorobenzene	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	Chloroethane	0.00051 U	0.00051	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	Chloroform	0.00037 U	0.00037	0.002	mg/L	0.0020 U		
RCF-SP-2-210617	8260B	Chloromethane	0.00032 U	0.00032	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	cis-1,2-Dichloroethene	0.00041 U	0.00041	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	cis-1,3-Dichloropropene	0.00042 U	0.00042	0.001	mg/L	0.0010 U		

CHEMTOOL FIRE SITE - RS WATER ANALYTICAL RESULTS SUMMARY
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Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
RCF-SP-2-210617	8260B	Cyclohexane	0.00049 U	0.00049	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	Dibromochloromethane	0.00049 U *-	0.00049	0.001	mg/L	0.0010 UJ		
RCF-SP-2-210617	8260B	Dichlorodifluoromethane	0.00067 U	0.00067	0.003	mg/L	0.0030 U		
RCF-SP-2-210617	8260B	Ethylbenzene	0.00018 U	0.00018	0.0005	mg/L	0.00050 U		
RCF-SP-2-210617	8260B	Isopropylbenzene	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	Methyl acetate	0.002 U	0.002	0.005	mg/L	0.0050 U		
RCF-SP-2-210617	8260B	Methyl Ethyl Ketone	0.0021 U	0.0021	0.005	mg/L	0.0050 U		
RCF-SP-2-210617	8260B	methyl isobutyl ketone	0.0022 U	0.0022	0.005	mg/L	0.0050 U		
RCF-SP-2-210617	8260B	Methyl tert-butyl ether	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	Methylcyclohexane	0.00032 U	0.00032	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	Methylene Chloride	0.0016 U	0.0016	0.005	mg/L	0.0050 U		
RCF-SP-2-210617	8260B	Styrene	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	Tetrachloroethene	0.00037 U	0.00037	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	Toluene	0.00015 U	0.00015	0.0005	mg/L	0.00050 U		
RCF-SP-2-210617	8260B	trans-1,2-Dichloroethene	0.00035 U	0.00035	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	trans-1,3-Dichloropropene	0.00036 U	0.00036	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	Trichloroethene	0.00016 U	0.00016	0.0005	mg/L	0.00050 U		
RCF-SP-2-210617	8260B	Trichlorofluoromethane	0.00043 U	0.00043	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	Vinyl chloride	0.0002 U	0.0002	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B	Xylenes, Total	0.00022 U	0.00022	0.001	mg/L	0.0010 U		
RCF-SP-2-210617	8260B LibSch	Tentatively Identified Compound	None			mg/L		U	
RCF-SP-2-210617	8270D	1,1'-Biphenyl	0.00031 U	0.00031	0.0042	mg/L	0.0042 U		
RCF-SP-2-210617	8270D	2,2'-oxybis[1-chloropropane]	0.00032 U	0.00032	0.0017	mg/L	0.0017 U		
RCF-SP-2-210617	8270D	2,4,5-Trichlorophenol	0.0022 U	0.0022	0.0085	mg/L	0.0085 U		
RCF-SP-2-210617	8270D	2,4,6-Trichlorophenol	0.00061 U	0.00061	0.0042	mg/L	0.0042 U		
RCF-SP-2-210617	8270D	2,4-Dichlorophenol	0.0022 U	0.0022	0.0085	mg/L	0.0085 U		
RCF-SP-2-210617	8270D	2,4-Dimethylphenol	0.0015 U	0.0015	0.0085	mg/L	0.0085 U		
RCF-SP-2-210617	8270D	2,4-Dinitrophenol	0.0073 U	0.0073	0.017	mg/L	0.017 U		
RCF-SP-2-210617	8270D	2,4-Dinitrotoluene	0.00021 U	0.00021	0.00085	mg/L	0.00085 U		
RCF-SP-2-210617	8270D	2,6-Dinitrotoluene	0.000062 U	0.000062	0.00085	mg/L	0.00085 U		
RCF-SP-2-210617	8270D	2-Chloronaphthalene	0.0002 U	0.0002	0.0017	mg/L	0.0017 U		
RCF-SP-2-210617	8270D	2-Chlorophenol	0.00047 U	0.00047	0.0042	mg/L	0.0042 U		
RCF-SP-2-210617	8270D	2-Methylnaphthalene	0.000055 U *1	0.000055	0.0017	mg/L	0.0017 U		
RCF-SP-2-210617	8270D	2-Methylphenol	0.00026 U	0.00026	0.0017	mg/L	0.0017 U		
RCF-SP-2-210617	8270D	2-Nitroaniline	0.0011 U	0.0011	0.0042	mg/L	0.0042 U		
RCF-SP-2-210617	8270D	2-Nitrophenol	0.0021 U	0.0021	0.0085	mg/L	0.0085 U		
RCF-SP-2-210617	8270D	3 & 4 Methylphenol	0.00038 U	0.00038	0.0017	mg/L	0.0017 U		
RCF-SP-2-210617	8270D	3,3'-Dichlorobenzidine	0.0015 U	0.0015	0.0042	mg/L	0.0042 U		
RCF-SP-2-210617	8270D	3-Nitroaniline	0.0015 U	0.0015	0.0085	mg/L	0.0085 U		
RCF-SP-2-210617	8270D	4,6-Dinitro-2-methylphenol	0.005 U	0.005	0.017	mg/L	0.017 U		

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EUROFINS TESTAMERICA REPORT NO. 500-201066-1

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
RCF-SP-2-210617	8270D	4-Bromophenyl phenyl ether	0.00046 U	0.00046	0.0042	mg/L	0.0042 U		
RCF-SP-2-210617	8270D	4-Chloro-3-methylphenol	0.0019 U	0.0019	0.0085	mg/L	0.0085 U		
RCF-SP-2-210617	8270D	4-Chloroaniline	0.0017 U	0.0017	0.0085	mg/L	0.0085 U		
RCF-SP-2-210617	8270D	4-Chlorophenyl phenyl ether	0.00054 U	0.00054	0.0042	mg/L	0.0042 U		
RCF-SP-2-210617	8270D	4-Nitroaniline	0.0014 U	0.0014	0.0085	mg/L	0.0085 U		
RCF-SP-2-210617	8270D	4-Nitrophenol	0.0063 U	0.0063	0.017	mg/L	0.017 U		
RCF-SP-2-210617	8270D	Acenaphthene	0.00026 U	0.00026	0.00085	mg/L	0.00085 U		
RCF-SP-2-210617	8270D	Acenaphthylene	0.00023 U	0.00023	0.00085	mg/L	0.00085 U		
RCF-SP-2-210617	8270D	Acetophenone	0.00056 U	0.00056	0.0042	mg/L	0.0042 U		
RCF-SP-2-210617	8270D	Anthracene	0.00028 U	0.00028	0.00085	mg/L	0.00085 U		
RCF-SP-2-210617	8270D	Atrazine	0.00053 U *+	0.00053	0.0042	mg/L	0.0042 U		
RCF-SP-2-210617	8270D	Benzaldehyde	0.013 U	0.013	0.034	mg/L	0.034 U		
RCF-SP-2-210617	8270D	Benzo[a]anthracene	0.000048 U	0.000048	0.00017	mg/L	0.00017 U		
RCF-SP-2-210617	8270D	Benzo[a]pyrene	0.000084 U	0.000084	0.00017	mg/L	0.00017 U		
RCF-SP-2-210617	8270D	Benzo[b]fluoranthene	0.000068 U	0.000068	0.00017	mg/L	0.00017 U		
RCF-SP-2-210617	8270D	Benzo[g,h,i]perylene	0.00032 U	0.00032	0.00085	mg/L	0.00085 U		
RCF-SP-2-210617	8270D	Benzo[k]fluoranthene	0.000054 U	0.000054	0.00017	mg/L	0.00017 U		
RCF-SP-2-210617	8270D	Bis(2-chloroethoxy)methane	0.00024 U	0.00024	0.0017	mg/L	0.0017 U		
RCF-SP-2-210617	8270D	Bis(2-chloroethyl)ether	0.00025 U	0.00025	0.0017	mg/L	0.0017 U		
RCF-SP-2-210617	8270D	Bis(2-ethylhexyl) phthalate	0.0015 U	0.0015	0.0085	mg/L	0.0085 U		
RCF-SP-2-210617	8270D	Butyl benzyl phthalate	0.00041 U	0.00041	0.0017	mg/L	0.0017 U		
RCF-SP-2-210617	8270D	Caprolactam	0.0013 U	0.0013	0.0085	mg/L	0.0085 U		
RCF-SP-2-210617	8270D	Carbazole	0.0003 U *+	0.0003	0.0042	mg/L	0.0042 UJ		
RCF-SP-2-210617	8270D	Chrysene	0.000058 U	0.000058	0.00017	mg/L	0.00017 U		
RCF-SP-2-210617	8270D	Dibenz(a,h)anthracene	0.000043 U	0.000043	0.00025	mg/L	0.00025 U		
RCF-SP-2-210617	8270D	Dibenzofuran	0.00022 U	0.00022	0.0017	mg/L	0.0017 U		
RCF-SP-2-210617	8270D	Diethyl phthalate	0.002 J	0.00031	0.0042	mg/L	0.0042 U		
RCF-SP-2-210617	8270D	Dimethyl phthalate	0.00027 U	0.00027	0.0042	mg/L	0.0042 U		
RCF-SP-2-210617	8270D	Di-n-butyl phthalate	0.00062 U	0.00062	0.0042	mg/L	0.0042 U		
RCF-SP-2-210617	8270D	Di-n-octyl phthalate	0.00089 U *+	0.00089	0.0085	mg/L	0.0085 U		
RCF-SP-2-210617	8270D	Fluoranthene	0.00038 U	0.00038	0.00085	mg/L	0.00085 U		
RCF-SP-2-210617	8270D	Fluorene	0.00021 U	0.00021	0.00085	mg/L	0.00085 U		
RCF-SP-2-210617	8270D	Hexachlorobenzene	0.000067 U	0.000067	0.00042	mg/L	0.00042 U		
RCF-SP-2-210617	8270D	Hexachlorobutadiene	0.00044 U *1	0.00044	0.0042	mg/L	0.0042 U		
RCF-SP-2-210617	8270D	Hexachlorocyclopentadiene	0.0054 U *1	0.0054	0.017	mg/L	0.017 U		
RCF-SP-2-210617	8270D	Hexachloroethane	0.00051 U *1	0.00051	0.0042	mg/L	0.0042 U		
RCF-SP-2-210617	8270D	Indeno[1,2,3-cd]pyrene	0.000063 U	0.000063	0.00017	mg/L	0.00017 U		
RCF-SP-2-210617	8270D	Isophorone	0.00032 U	0.00032	0.0017	mg/L	0.0017 U		
RCF-SP-2-210617	8270D	Naphthalene	0.00026 U	0.00026	0.00085	mg/L	0.00085 U		
RCF-SP-2-210617	8270D	Nitrobenzene	0.00038 U	0.00038	0.00085	mg/L	0.00085 U		

CHEMTOOL FIRE SITE - RS WATER ANALYTICAL RESULTS SUMMARY
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Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
RCF-SP-2-210617	8270D	N-Nitrosodi-n-propylamine	0.00013 U	0.00013	0.00042	mg/L	0.00042 U		
RCF-SP-2-210617	8270D	N-Nitrosodiphenylamine	0.00031 U	0.00031	0.0017	mg/L	0.0017 U		
RCF-SP-2-210617	8270D	Pentachlorophenol	0.0033 U	0.0033	0.017	mg/L	0.017 U		
RCF-SP-2-210617	8270D	Phenanthrene	0.00026 U	0.00026	0.00085	mg/L	0.00085 U		
RCF-SP-2-210617	8270D	Phenol	0.00057 U	0.00057	0.0042	mg/L	0.0042 U		
RCF-SP-2-210617	8270D	Pyrene	0.00036 U	0.00036	0.00085	mg/L	0.00085 U		
RCF-SP-2-210617	8270D LibSch	2,5-Cyclohexadiene-1,4-dione, 2,5-dimethyl-	0.0025 TJ N			mg/L	0.0025 NJ		
RCF-SP-2-210617	8270D LibSch	Undecane, 2-methyl-	0.0019 TJ N			mg/L	0.0019 NJ		
RCF-SP-2-210617	8270D LibSch	Unknown	0.004 TJ			mg/L	0.0040 J		
RCF-TB-210617	8260B	1,1,1-Trichloroethane	0.00038 U	0.00038	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	1,1,2,2-Tetrachloroethane	0.0004 U	0.0004	0.001	mg/L	0.0010 UJ		
RCF-TB-210617	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.00046 U	0.00046	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	1,1,2-Trichloroethane	0.00035 U	0.00035	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	1,1-Dichloroethane	0.00041 U	0.00041	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	1,1-Dichloroethene	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	1,2,4-Trichlorobenzene	0.00034 U	0.00034	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	1,2-Dibromo-3-Chloropropane	0.002 U	0.002	0.005	mg/L	0.0050 U		
RCF-TB-210617	8260B	1,2-Dibromoethane	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	1,2-Dichlorobenzene	0.00033 U	0.00033	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	1,2-Dichloroethane	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	1,2-Dichloropropane	0.00043 U	0.00043	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	1,3-Dichlorobenzene	0.0004 U	0.0004	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	1,4-Dichlorobenzene	0.00036 U	0.00036	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	2-Hexanone	0.0016 U	0.0016	0.005	mg/L	0.0050 U		
RCF-TB-210617	8260B	Acetone	0.0017 U	0.0017	0.01	mg/L	0.010 U		
RCF-TB-210617	8260B	Benzene	0.00015 U	0.00015	0.0005	mg/L	0.00050 U		
RCF-TB-210617	8260B	Bromodichloromethane	0.00037 U	0.00037	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	Bromoform	0.00048 U *-	0.00048	0.001	mg/L	0.0010 UJ		
RCF-TB-210617	8260B	Bromomethane	0.0008 U	0.0008	0.003	mg/L	0.0030 U		
RCF-TB-210617	8260B	Carbon disulfide	0.00045 U	0.00045	0.002	mg/L	0.0020 U		
RCF-TB-210617	8260B	Carbon tetrachloride	0.00038 U	0.00038	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	Chlorobenzene	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	Chloroethane	0.00051 U	0.00051	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	Chloroform	0.00037 U	0.00037	0.002	mg/L	0.0020 U		
RCF-TB-210617	8260B	Chloromethane	0.00032 U	0.00032	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	cis-1,2-Dichloroethene	0.00041 U	0.00041	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	cis-1,3-Dichloropropene	0.00042 U	0.00042	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	Cyclohexane	0.00049 U	0.00049	0.001	mg/L	0.0010 U		
RCF-TB-210617	8260B	Dibromochloromethane	0.00049 U *-	0.00049	0.001	mg/L	0.0010 UJ		
RCF-TB-210617	8260B	Dichlorodifluoromethane	0.00067 U	0.00067	0.003	mg/L	0.0030 U		

CHEMTOOL FIRE SITE - RS WATER ANALYTICAL RESULTS SUMMARY
EUROFINS TESTAMERICA REPORT NO. 500-201066-1

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
RCF-TB-210617	8260B	Ethylbenzene	0.00018	U	0.00018	0.0005	mg/L	0.00050	U
RCF-TB-210617	8260B	Isopropylbenzene	0.00039	U	0.00039	0.001	mg/L	0.0010	U
RCF-TB-210617	8260B	Methyl acetate	0.002	U	0.002	0.005	mg/L	0.0050	U
RCF-TB-210617	8260B	Methyl Ethyl Ketone	0.0021	U	0.0021	0.005	mg/L	0.0050	U
RCF-TB-210617	8260B	methyl isobutyl ketone	0.0022	U	0.0022	0.005	mg/L	0.0050	U
RCF-TB-210617	8260B	Methyl tert-butyl ether	0.00039	U	0.00039	0.001	mg/L	0.0010	U
RCF-TB-210617	8260B	Methylcyclohexane	0.00032	U	0.00032	0.001	mg/L	0.0010	U
RCF-TB-210617	8260B	Methylene Chloride	0.0016	U	0.0016	0.005	mg/L	0.0050	U
RCF-TB-210617	8260B	Styrene	0.00039	U	0.00039	0.001	mg/L	0.0010	U
RCF-TB-210617	8260B	Tetrachloroethene	0.00037	U	0.00037	0.001	mg/L	0.0010	U
RCF-TB-210617	8260B	Toluene	0.00015	U	0.00015	0.0005	mg/L	0.00050	U
RCF-TB-210617	8260B	trans-1,2-Dichloroethene	0.00035	U	0.00035	0.001	mg/L	0.0010	U
RCF-TB-210617	8260B	trans-1,3-Dichloropropene	0.00036	U	0.00036	0.001	mg/L	0.0010	U
RCF-TB-210617	8260B	Trichloroethene	0.00016	U	0.00016	0.0005	mg/L	0.00050	U
RCF-TB-210617	8260B	Trichlorofluoromethane	0.00043	U	0.00043	0.001	mg/L	0.0010	U
RCF-TB-210617	8260B	Vinyl chloride	0.0002	U	0.0002	0.001	mg/L	0.0010	U
RCF-TB-210617	8260B	Xylenes, Total	0.00022	U	0.00022	0.001	mg/L	0.0010	U
RCF-TB-210617	8260B LibSch	Tentatively Identified Compound	None				mg/L	U	
RCF-UP-1-210617	6020A	Aluminum	0.087	J	0.025	0.1	mg/L	0.087	J
RCF-UP-1-210617	6020A	Antimony	0.0013	U	0.0013	0.003	mg/L	0.0030	U
RCF-UP-1-210617	6020A	Arsenic	0.0017		0.00023	0.001	mg/L	0.0017	J-
RCF-UP-1-210617	6020A	Barium	0.046		0.00073	0.0025	mg/L	0.046	
RCF-UP-1-210617	6020A	Beryllium	0.00053	U	0.00053	0.001	mg/L	0.0010	U
RCF-UP-1-210617	6020A	Cadmium	0.00017	U	0.00017	0.0005	mg/L	0.00050	U
RCF-UP-1-210617	6020A	Calcium	56		0.044	0.2	mg/L	56	
RCF-UP-1-210617	6020A	Chromium	0.0011	U	0.0011	0.005	mg/L	0.0050	U
RCF-UP-1-210617	6020A	Cobalt	0.0004	U	0.0004	0.001	mg/L	0.0010	U
RCF-UP-1-210617	6020A	Copper	0.0024		0.0005	0.002	mg/L	0.0024	
RCF-UP-1-210617	6020A	Iron	0.18		0.047	0.1	mg/L	0.18	
RCF-UP-1-210617	6020A	Lead	0.00088		0.00019	0.0005	mg/L	0.00088	
RCF-UP-1-210617	6020A	Lithium	0.003		0.0005	0.002	mg/L	0.0030	J+
RCF-UP-1-210617	6020A	Magnesium	41		0.049	0.2	mg/L	41	
RCF-UP-1-210617	6020A	Manganese	0.12		0.00079	0.0025	mg/L	0.12	
RCF-UP-1-210617	6020A	Nickel	0.0015	J	0.00063	0.002	mg/L	0.0015	J
RCF-UP-1-210617	6020A	Potassium	3.8		0.11	0.5	mg/L	3.8	
RCF-UP-1-210617	6020A	Selenium	0.00098	U	0.00098	0.0025	mg/L	0.0025	U
RCF-UP-1-210617	6020A	Silver	0.00012	U	0.00012	0.0005	mg/L	0.00050	U
RCF-UP-1-210617	6020A	Sodium	37		0.077	0.2	mg/L	37	
RCF-UP-1-210617	6020A	Thallium	0.00057	U	0.00057	0.002	mg/L	0.0020	U
RCF-UP-1-210617	6020A	Vanadium	0.0036	J	0.0022	0.005	mg/L	0.0036	J-

CHEMTOOL FIRE SITE - RS WATER ANALYTICAL RESULTS SUMMARY
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Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
RCF-UP-1-210617	6020A	Zinc	0.0086 J	0.0069	0.02	mg/L	0.0086 J		
RCF-UP-1-210617	7470A	Mercury	0.000098 U	0.000098	0.0002	mg/L	0.00020 U		
RCF-UP-1-210617	8260B	1,1,1-Trichloroethane	0.00038 U	0.00038	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	1,1,2,2-Tetrachloroethane	0.0004 U	0.0004	0.001	mg/L	0.0010 UJ		
RCF-UP-1-210617	8260B	1,1,2-Trichloro-1,2,2-trifluoroethane	0.00046 U	0.00046	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	1,1,2-Trichloroethane	0.00035 U	0.00035	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	1,1-Dichloroethane	0.00041 U	0.00041	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	1,1-Dichloroethene	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	1,2,4-Trichlorobenzene	0.00034 U	0.00034	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	1,2-Dibromo-3-Chloropropane	0.002 U	0.002	0.005	mg/L	0.0050 U		
RCF-UP-1-210617	8260B	1,2-Dibromoethane	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	1,2-Dichlorobenzene	0.00033 U	0.00033	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	1,2-Dichloroethane	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	1,2-Dichloropropane	0.00043 U	0.00043	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	1,3-Dichlorobenzene	0.0004 U	0.0004	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	1,4-Dichlorobenzene	0.00036 U	0.00036	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	2-Hexanone	0.0016 U	0.0016	0.005	mg/L	0.0050 U		
RCF-UP-1-210617	8260B	Acetone	0.0017 U	0.0017	0.01	mg/L	0.010 U		
RCF-UP-1-210617	8260B	Benzene	0.00015 U	0.00015	0.0005	mg/L	0.00050 U		
RCF-UP-1-210617	8260B	Bromodichloromethane	0.00037 U	0.00037	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	Bromoform	0.00048 U *-	0.00048	0.001	mg/L	0.0010 UJ		
RCF-UP-1-210617	8260B	Bromomethane	0.0008 U	0.0008	0.003	mg/L	0.0030 U		
RCF-UP-1-210617	8260B	Carbon disulfide	0.00045 U	0.00045	0.002	mg/L	0.0020 U		
RCF-UP-1-210617	8260B	Carbon tetrachloride	0.00038 U	0.00038	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	Chlorobenzene	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	Chloroethane	0.00051 U	0.00051	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	Chloroform	0.00037 U	0.00037	0.002	mg/L	0.0020 U		
RCF-UP-1-210617	8260B	Chloromethane	0.00032 U	0.00032	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	cis-1,2-Dichloroethene	0.00041 U	0.00041	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	cis-1,3-Dichloropropene	0.00042 U	0.00042	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	Cyclohexane	0.00049 U	0.00049	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	Dibromochloromethane	0.00049 U *-	0.00049	0.001	mg/L	0.0010 UJ		
RCF-UP-1-210617	8260B	Dichlorodifluoromethane	0.00067 U	0.00067	0.003	mg/L	0.0030 U		
RCF-UP-1-210617	8260B	Ethylbenzene	0.00018 U	0.00018	0.0005	mg/L	0.00050 U		
RCF-UP-1-210617	8260B	Isopropylbenzene	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	Methyl acetate	0.002 U	0.002	0.005	mg/L	0.0050 U		
RCF-UP-1-210617	8260B	Methyl Ethyl Ketone	0.0021 U	0.0021	0.005	mg/L	0.0050 U		
RCF-UP-1-210617	8260B	methyl isobutyl ketone	0.0022 U	0.0022	0.005	mg/L	0.0050 U		
RCF-UP-1-210617	8260B	Methyl tert-butyl ether	0.00039 U	0.00039	0.001	mg/L	0.0010 U		
RCF-UP-1-210617	8260B	Methylcyclohexane	0.00032 U	0.00032	0.001	mg/L	0.0010 U		

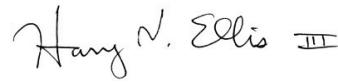
CHEMTOOL FIRE SITE - RS WATER ANALYTICAL RESULTS SUMMARY
EUROFINS TESTAMERICA REPORT NO. 500-201066-1

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
RCF-UP-1-210617	8260B	Methylene Chloride	0.0016	U	0.0016	0.005	mg/L	0.0050	U
RCF-UP-1-210617	8260B	Styrene	0.00039	U	0.00039	0.001	mg/L	0.0010	U
RCF-UP-1-210617	8260B	Tetrachloroethene	0.00037	U	0.00037	0.001	mg/L	0.0010	U
RCF-UP-1-210617	8260B	Toluene	0.00015	U	0.00015	0.0005	mg/L	0.00050	U
RCF-UP-1-210617	8260B	trans-1,2-Dichloroethene	0.00035	U	0.00035	0.001	mg/L	0.0010	U
RCF-UP-1-210617	8260B	trans-1,3-Dichloropropene	0.00036	U	0.00036	0.001	mg/L	0.0010	U
RCF-UP-1-210617	8260B	Trichloroethene	0.00016	U	0.00016	0.0005	mg/L	0.00050	U
RCF-UP-1-210617	8260B	Trichlorofluoromethane	0.00043	U	0.00043	0.001	mg/L	0.0010	U
RCF-UP-1-210617	8260B	Vinyl chloride	0.0002	U	0.0002	0.001	mg/L	0.0010	U
RCF-UP-1-210617	8260B	Xylenes, Total	0.00022	U	0.00022	0.001	mg/L	0.0010	U
RCF-UP-1-210617	8260B LibSch	Tentatively Identified Compound	None				mg/L		U
RCF-UP-1-210617	8270D	1,1'-Biphenyl	0.0003	U	0.0003	0.0042	mg/L	0.0042	U
RCF-UP-1-210617	8270D	2,2'-oxybis[1-chloropropane]	0.00032	U	0.00032	0.0017	mg/L	0.0017	U
RCF-UP-1-210617	8270D	2,4,5-Trichlorophenol	0.0021	U	0.0021	0.0083	mg/L	0.0083	U
RCF-UP-1-210617	8270D	2,4,6-Trichlorophenol	0.0006	U	0.0006	0.0042	mg/L	0.0042	U
RCF-UP-1-210617	8270D	2,4-Dichlorophenol	0.0022	U	0.0022	0.0083	mg/L	0.0083	U
RCF-UP-1-210617	8270D	2,4-Dimethylphenol	0.0015	U	0.0015	0.0083	mg/L	0.0083	U
RCF-UP-1-210617	8270D	2,4-Dinitrophenol	0.0072	U	0.0072	0.017	mg/L	0.017	U
RCF-UP-1-210617	8270D	2,4-Dinitrotoluene	0.0002	U	0.0002	0.00083	mg/L	0.00083	U
RCF-UP-1-210617	8270D	2,6-Dinitrotoluene	0.000061	U	0.000061	0.00083	mg/L	0.00083	U
RCF-UP-1-210617	8270D	2-Chloronaphthalene	0.0002	U	0.0002	0.0017	mg/L	0.0017	U
RCF-UP-1-210617	8270D	2-Chlorophenol	0.00047	U	0.00047	0.0042	mg/L	0.0042	U
RCF-UP-1-210617	8270D	2-Methylnaphthalene	0.000054	U *1	0.000054	0.0017	mg/L	0.0017	U
RCF-UP-1-210617	8270D	2-Methylphenol	0.00025	U	0.00025	0.0017	mg/L	0.0017	U
RCF-UP-1-210617	8270D	2-Nitroaniline	0.0011	U	0.0011	0.0042	mg/L	0.0042	U
RCF-UP-1-210617	8270D	2-Nitrophenol	0.0021	U	0.0021	0.0083	mg/L	0.0083	U
RCF-UP-1-210617	8270D	3 & 4 Methylphenol	0.00037	U	0.00037	0.0017	mg/L	0.0017	U
RCF-UP-1-210617	8270D	3,3'-Dichlorobenzidine	0.0014	U	0.0014	0.0042	mg/L	0.0042	U
RCF-UP-1-210617	8270D	3-Nitroaniline	0.0015	U	0.0015	0.0083	mg/L	0.0083	U
RCF-UP-1-210617	8270D	4,6-Dinitro-2-methylphenol	0.0049	U	0.0049	0.017	mg/L	0.017	U
RCF-UP-1-210617	8270D	4-Bromophenyl phenyl ether	0.00045	U	0.00045	0.0042	mg/L	0.0042	U
RCF-UP-1-210617	8270D	4-Chloro-3-methylphenol	0.0019	U	0.0019	0.0083	mg/L	0.0083	U
RCF-UP-1-210617	8270D	4-Chloroaniline	0.0017	U	0.0017	0.0083	mg/L	0.0083	U
RCF-UP-1-210617	8270D	4-Chlorophenyl phenyl ether	0.00053	U	0.00053	0.0042	mg/L	0.0042	U
RCF-UP-1-210617	8270D	4-Nitroaniline	0.0014	U	0.0014	0.0083	mg/L	0.0083	U
RCF-UP-1-210617	8270D	4-Nitrophenol	0.0062	U	0.0062	0.017	mg/L	0.017	U
RCF-UP-1-210617	8270D	Acenaphthene	0.00026	U	0.00026	0.00083	mg/L	0.00083	U
RCF-UP-1-210617	8270D	Acenaphthylene	0.00022	U	0.00022	0.00083	mg/L	0.00083	U
RCF-UP-1-210617	8270D	Acetophenone	0.00055	U	0.00055	0.0042	mg/L	0.0042	U
RCF-UP-1-210617	8270D	Anthracene	0.00028	U	0.00028	0.00083	mg/L	0.00083	U

CHEMTOOL FIRE SITE - RS WATER ANALYTICAL RESULTS SUMMARY
EUROFINS TESTAMERICA REPORT NO. 500-201066-1

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
RCF-UP-1-210617	8270D	Atrazine	0.00052	U *+	0.00052	0.0042	mg/L	0.0042	U
RCF-UP-1-210617	8270D	Benzaldehyde	0.013	U	0.013	0.033	mg/L	0.033	U
RCF-UP-1-210617	8270D	Benzo[a]anthracene	0.000047	U	0.000047	0.00017	mg/L	0.00017	U
RCF-UP-1-210617	8270D	Benzo[a]pyrene	0.000082	U	0.000082	0.00017	mg/L	0.00017	U
RCF-UP-1-210617	8270D	Benzo[b]fluoranthene	0.000067	U	0.000067	0.00017	mg/L	0.00017	U
RCF-UP-1-210617	8270D	Benzo[g,h,i]perylene	0.00031	U	0.00031	0.00083	mg/L	0.00083	U
RCF-UP-1-210617	8270D	Benzo[k]fluoranthene	0.000053	U	0.000053	0.00017	mg/L	0.00017	U
RCF-UP-1-210617	8270D	Bis(2-chloroethoxy)methane	0.00024	U	0.00024	0.0017	mg/L	0.0017	U
RCF-UP-1-210617	8270D	Bis(2-chloroethyl)ether	0.00024	U	0.00024	0.0017	mg/L	0.0017	U
RCF-UP-1-210617	8270D	Bis(2-ethylhexyl) phthalate	0.0014	U	0.0014	0.0083	mg/L	0.0083	U
RCF-UP-1-210617	8270D	Butyl benzyl phthalate	0.0004	U	0.0004	0.0017	mg/L	0.0017	U
RCF-UP-1-210617	8270D	Caprolactam	0.0012	U	0.0012	0.0083	mg/L	0.0083	U
RCF-UP-1-210617	8270D	Carbazole	0.00029	U *+	0.00029	0.0042	mg/L	0.0042	UJ
RCF-UP-1-210617	8270D	Chrysene	0.000057	U	0.000057	0.00017	mg/L	0.00017	U
RCF-UP-1-210617	8270D	Dibenz(a,h)anthracene	0.000042	U	0.000042	0.00025	mg/L	0.00025	U
RCF-UP-1-210617	8270D	Dibenzofuran	0.00022	U	0.00022	0.0017	mg/L	0.0017	U
RCF-UP-1-210617	8270D	Diethyl phthalate	0.0003	U	0.0003	0.0042	mg/L	0.0042	U
RCF-UP-1-210617	8270D	Dimethyl phthalate	0.00026	U	0.00026	0.0042	mg/L	0.0042	U
RCF-UP-1-210617	8270D	Di-n-butyl phthalate	0.00061	U	0.00061	0.0042	mg/L	0.0042	U
RCF-UP-1-210617	8270D	Di-n-octyl phthalate	0.00088	U *+	0.00088	0.0083	mg/L	0.0083	U
RCF-UP-1-210617	8270D	Fluoranthene	0.00038	U	0.00038	0.00083	mg/L	0.00083	U
RCF-UP-1-210617	8270D	Fluorene	0.0002	U	0.0002	0.00083	mg/L	0.00083	U
RCF-UP-1-210617	8270D	Hexachlorobenzene	0.000066	U	0.000066	0.00042	mg/L	0.00042	U
RCF-UP-1-210617	8270D	Hexachlorobutadiene	0.00043	U *1	0.00043	0.0042	mg/L	0.0042	U
RCF-UP-1-210617	8270D	Hexachlorocyclopentadiene	0.0053	U *1	0.0053	0.017	mg/L	0.017	U
RCF-UP-1-210617	8270D	Hexachloroethane	0.0005	U *1	0.0005	0.0042	mg/L	0.0042	U
RCF-UP-1-210617	8270D	Indeno[1,2,3-cd]pyrene	0.000062	U	0.000062	0.00017	mg/L	0.00017	U
RCF-UP-1-210617	8270D	Isophorone	0.00031	U	0.00031	0.0017	mg/L	0.0017	U
RCF-UP-1-210617	8270D	Naphthalene	0.00026	U	0.00026	0.00083	mg/L	0.00083	U
RCF-UP-1-210617	8270D	Nitrobenzene	0.00037	U	0.00037	0.00083	mg/L	0.00083	U
RCF-UP-1-210617	8270D	N-Nitrosodi-n-propylamine	0.00013	U	0.00013	0.00042	mg/L	0.00042	U
RCF-UP-1-210617	8270D	N-Nitrosodiphenylamine	0.00031	U	0.00031	0.0017	mg/L	0.0017	U
RCF-UP-1-210617	8270D	Pentachlorophenol	0.0033	U	0.0033	0.017	mg/L	0.017	U
RCF-UP-1-210617	8270D	Phenanthrene	0.00025	U	0.00025	0.00083	mg/L	0.00083	U
RCF-UP-1-210617	8270D	Phenol	0.00056	U	0.00056	0.0042	mg/L	0.0042	U
RCF-UP-1-210617	8270D	Pyrene	0.00036	U	0.00036	0.00083	mg/L	0.00083	U
RCF-UP-1-210617	8270D LibSch	2,5-Cyclohexadiene-1,4-dione, 2,5-dimethyl-	0.002	T J N			mg/L	0.0020	NJ
RCF-UP-1-210617	8270D LibSch	Unknown	0.0018	T J			mg/L	0.0018	J
RCF-UP-1-210617	8270D LibSch	Unknown	0.0035	T J			mg/L	0.0035	J

DATA VALIDATION CHECKLIST – STAGE 3
EPA REGION 5 START CONTRACT

Site Name	Chemtool Fire Site - RS	TO/TOLIN No.	68HE0520F0032/0001CF104
Document Tracking No.	0747b	Technical Reviewer (signature and date)	 Harry N. Ellis III 8 July 2021
Data Reviewer (signature and date)	 Bruce Welsh July 6, 2021	Laboratory	Eurofins TestAmerica/Sacramento, CA
Laboratory Report No.	500-201067-1		
Analyses	Perfluoroalkyl Substances (PFAS) by EPA Method 537 modified		
Samples and Matrix	Five water samples including one field blank water sample and one equipment rinsate blank water sample		
Field Duplicate Pairs	None		
Field Blanks	RCF-FB1-210617 and RCF-EB-1-210617		

INTRODUCTION

This checklist summarizes the Stage 3 validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the Tetra Tech Quality Assurance Project Plan, *Superfund Technical Assessment and Response Team (START V), EPA Region 5, Revision 2* (August 2020), the EPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017), and the EPA *Data Review and Validation Guidelines for Perfluoroalkyl Substances Analyzed Using EPA Method 537* (November 2018).

OVERALL EVALUATION

No rejection of results was required for this data package. The results may be used as qualified based on the findings of this validation effort.

Data completeness:

Within Criteria	Exceedance/Notes
Y	



DATA VALIDATION CHECKLIST – STAGE 3
EPA REGION 5 START CONTRACT

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
N	<p>The EPA data validation guideline for PFAS sample temperature is ≤10°C upon receipt at the laboratory, but the samples were received at the laboratory at a temperature of 25.3°C; therefore, all PFAS sample results were qualified as estimated (flagged J/UJ). It should be noted the intended FedEx overnight shipment was delayed, and laboratory received the sample cooler four days after the sample cooler was relinquished by the field sampler.</p> <p>The chain-of-custody form requests analysis by EPA Method 537.1, but the laboratory used EPA Method 537 modified. While no qualifications were applied for this circumstance, the data user should note that EPA Method 537 modified was used.</p>

Instrument Performance Checks:

Within Criteria	Exceedance/Notes
N	<p>EPA Method 537.1 requires peak symmetry factor checks to ensure adequate chromatography is obtained before sample analysis.</p> <p>The laboratory did not perform peak symmetry factor checks, but utilized isotopic dilutions to normalize any variations in extraction efficiency or instrument sensitivity. No qualifications were applied for this variance.</p>

Initial Calibration:

Within Criteria	Exceedance/Notes
Y	

Continuing Calibration:

Within Criteria	Exceedance/Notes
N	<p>Closing continuing calibration verification 500-500405/11 had a percent difference value for 6:2 FTCA exceed the EPA acceptance limit of 30%; therefore, the 6:2 FTCA non-detect results for all samples were qualified as estimated (flagged UJ).</p>



DATA VALIDATION CHECKLIST – STAGE 3
EPA REGION 5 START CONTRACT

Calibration Verification:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
Y	

Field blanks:

Within Criteria	Exceedance/Notes
Y	

Interference Check Samples (ICS) (ICP metals only):

Within Criteria	Exceedance/Notes
NA	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
Y	



DATA VALIDATION CHECKLIST – STAGE 3
EPA REGION 5 START CONTRACT

MS/MSD:

Within Criteria	Exceedance/Notes
NA	The laboratory did not receive sufficient sample volume to analyze a matrix spike and matrix spike duplicate (MS/MSD). A laboratory control sample and laboratory control sample duplicate (LCS/LCSD) were analyzed in lieu of a MS/MSD.

Post digestion spikes:

Within Criteria	Exceedance/Notes
NA	

Serial dilutions:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
N	The laboratory did not receive sufficient sample volume to analyze a laboratory duplicate. An LCS/LCSD were analyzed in lieu of a laboratory duplicate.

Field duplicates:

Within Criteria	Exceedance/Notes
NA	



DATA VALIDATION CHECKLIST – STAGE 3
EPA REGION 5 START CONTRACT

LCSS/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

Second column confirmation (GC and HPLC analyses only):

Within Criteria	Exceedance/Notes
NA	

Internal Standards:

Within Criteria	Exceedance/Notes
Y	

Target analyte identification:

Within Criteria	Exceedance/Notes
Y	



DATA VALIDATION CHECKLIST – STAGE 3
EPA REGION 5 START CONTRACT

Analyte quantitation and MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	The non-detect results were reported at the reporting limit (RL) values in the laboratory report, but the non-detect results were reported at the method detection limit (MDL) values in electronic data deliverable. Results between the MDL and the RL were flagged "J" by the laboratory. The non-detect results are reported at the RL values in the attached qualified data table.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

System performance and instrument stability:

Within Criteria	Exceedance/Notes
Y	

Other [Isotope Dilution]:

Within Criteria	Exceedance/Notes
Y	Isotope dilution percent recoveries were evaluated against the 25-150% laboratory acceptance criteria.



DATA VALIDATION CHECKLIST – STAGE 3
EPA REGION 5 START CONTRACT

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.



500-201067-1 PFAS

CCU:

320-499083/10 6/16/21 16:53 pgs: 158, 1229, 1522
PFBA = 5.1% , 0.9443

$$\frac{11615906 \times 1.25 \text{ ng/mL}}{3785512 \times 4.06 \text{ ng/mL}} = 0.9447 \quad \checkmark$$

$$\frac{0.9443 - 0.8986}{0.8986} \times 100 = 5.1\% \quad \checkmark$$

Opening
CCU:

320-500405/1 6/21/21 19:41 pgs: 1599, 1602
PFPeA = -3.7%

$$\frac{2451813 \times 1.25 \text{ ng/mL}}{2967724 \times 1.0 \text{ ng/mL}} = 1.033 \quad \checkmark$$

$$\frac{1.033 - 1.072}{1.072} \times 100 = -3.7\% \quad \checkmark$$

Closing
CCU

320-500405/11 6/21/21 21:12 pgs: 1623, 1628, 1625
PFHxS = 6.1% BW 7/8/21

$$\frac{1929206 \times 1.18 \text{ ng/mL}}{883325 \times 2.28 \text{ ng/mL}} = 1.130 \quad \checkmark$$

$$\frac{1.135 - 1.070}{1.070} \times 100 = 6.1\% \quad \checkmark$$

500-201067-1

PFAS

MB: All non-detect

pg: 1231, 1709, 21, 1738

LCS: 320-500176/2-A

PFOA = 109%, 43.7 ng/L

$$\frac{2353126 \times 1.25 \text{ ng/mL}}{2580862 \times 1.0441} = 1.092 \text{ ng/mL}$$

$$\frac{1.092 \text{ ng/mL} \times 10\text{mL} \times 1000\text{mL}}{250\text{mL} \times 1\text{L}} = 43.7 \text{ ng/L}$$

$$[43.7 \text{ ng/L} / 40.0 \text{ ng/L}] \times 100 = 109.2\%$$

LCS Dup: 320-500176/3-A pg: 22, 1720, 1723

PFOA = 108%, 43.1 ng/L

$$\frac{2545176 \times 1.25 \text{ ng/mL}}{2830843 \times 1.0441} = 1.076 \text{ ng/mL}$$

$$\frac{1.076 \text{ ng/mL} \times 10\text{mL} \times 1000\text{mL}}{250\text{mL} \times 1\text{L}} = 43.1 \text{ ng/L}$$

RPD: $\left[\frac{43.7 - 43.1}{\frac{(43.7 + 43.1)}{2}} \right] \times 100 = 1.4\%$

(2)

500-201067-1 PFAS

Isotope: RCF-UP-1-210617
Dilution PFHxA = 46 %

pgs: 18, 1148-1149
1242

$$\frac{1852632 \times 1.25 \text{ ng/mL}}{4275116 \times 0.938} = 0.5774 \text{ ng/mL}$$

$$\left[\frac{0.5774 \text{ ng/mL}}{1.25 \text{ ng/mL}} \right] \times 100 = 46.2\%$$

Sample: RCF-SP-1-210617
6/21/21 20:45 pgs: 13, 1243, 1214, 1232
PFDA = 2.5 ng/L 1738

$$C_{\text{PFDA}} = \frac{102391 \times 1.25 \text{ ng/mL}}{171313 \times 1.0612} = 0.0717 \text{ ng/mL}$$

$$\frac{0.0717 \text{ ng/mL} \times 10 \text{ mL} \times 1000 \text{ mL}}{284.9 \text{ mL} \times 1 \text{ L}} = 2.5 \text{ g/L}$$

Adjusted: RCF-EB-1-210617 pgs: 17, 20, 1938, 9
RL/MDL FOSA Unadjusted RL = 2.0 g/L
Unadjusted MDL = 0.98 ng/L
293.1 mL → 10 mL

$$\text{Adjusted RL} = 2.0 \text{ g/L} \times \left(\frac{250 \text{ mL}}{293.1 \text{ mL}} \right) \times \left(\frac{10 \text{ mL}}{10 \text{ mL}} \right) \times DFI = 1.7 \text{ g/L}$$

$$\text{Adjusted MDL} = 0.98 \text{ ng/L} \times \left(\frac{250 \text{ mL}}{293.1 \text{ mL}} \right) \times \left(\frac{10 \text{ mL}}{10 \text{ mL}} \right) \times DFI = 0.84 \text{ ng/L}$$

(3)

Report: 500-201066-1

Initial Calibration

6/16/2021

16:35

LC/MS/MS

PFOA

Page: 1229-1419

Level	1	2	3	4	5	6	7
PFOA Concentration (ng/mL)	0.025	0.050	0.25	1.0	2.5	5.0	10.0
PFOA Response	80054	149179	749085	3083365	7758377	12711228	25020259
13C4 PFOA Concentration (ng/mL)	1.25	1.25	1.25	1.25	1.25	1.25	1.25
13C4 PFOA Response	3515409	3520468	3869130	3606398	3538950	3388293	3007853
Rf	1.1386	1.0594	0.9680	1.0687	1.0961	0.9379	1.0398

Std Dev: 0.0702

Mean Rf: 1.0441



%RSD: 6.7



Level 1: 0.025 ng/mL RF Check	Response	Concentration	Units	Page
PFOA =	80054	0.025	ng/mL	1249
13C4 PFOA =	3515409	1.250	ng/mL	1249
80054	x	1.25	=	1.1386
3515409	x	0.025		

CHEMTOOL FIRE SITE - RS WATER ANALYTICAL RESULTS SUMMARY
EUROFINS TESTAMERICA REPORT NO. 500-201067-1

Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
RCF-EB-1-210617	537 (modified)	4:2 FTS		0.2 U	0.2	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	6:2 FTS		2.1 U	2.1	4.3	ng/L	4.3	UJ
RCF-EB-1-210617	537 (modified)	8:2 FTS		0.39 U	0.39	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	DONA		0.34 U	0.34	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	F-53B Major		0.2 U	0.2	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	F-53B Minor		0.27 U	0.27	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	HFPO-DA (GenX)		1.3 U	1.3	3.4	ng/L	3.4	UJ
RCF-EB-1-210617	537 (modified)	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)		1.1 U	1.1	4.3	ng/L	4.3	UJ
RCF-EB-1-210617	537 (modified)	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)		1 U	1	4.3	ng/L	4.3	UJ
RCF-EB-1-210617	537 (modified)	Perfluorobutanesulfonic acid (PFBS)		0.17 U	0.17	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	Perfluorobutanoic acid (PFBA)		2 U	2	4.3	ng/L	4.3	UJ
RCF-EB-1-210617	537 (modified)	Perfluorodecanesulfonic acid (PFDS)		0.27 U	0.27	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	Perfluorodecanoic acid (PFDA)		0.26 U	0.26	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	Perfluorododecanoic acid (PFDoA)		0.47 U	0.47	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	Perfluoroheptanesulfonic Acid (PFHps)		0.16 U	0.16	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	Perfluoroheptanoic acid (PFHpA)		0.21 U	0.21	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	Perfluorohexanesulfonic acid (PFHxS)		0.49 U	0.49	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	Perfluorohexanoic acid (PFHxA)		0.49 U	0.49	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	Perfluorononanesulfonic acid (PFNS)		0.32 U	0.32	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	Perfluorononanoic acid (PFNA)		0.23 U	0.23	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	Perfluorooctanesulfonamide (FOSA)		0.84 U	0.84	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	Perfluorooctanesulfonic acid (PFOS)		0.46 U	0.46	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	Perfluorooctanoic acid (PFOA)		0.73 U	0.73	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	Perfluoropentanesulfonic acid (PFPeS)		0.26 U	0.26	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	Perfluoropentanoic acid (PFPeA)		0.42 U	0.42	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	Perfluorotetradecanoic acid (PFTeA)		0.62 U	0.62	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	Perfluorotridecanoic acid (PFTriA)		1.1 U	1.1	1.7	ng/L	1.7	UJ
RCF-EB-1-210617	537 (modified)	Perfluoroundecanoic acid (PFUnA)		0.94 U	0.94	1.7	ng/L	1.7	UJ
RCF-FB-1-210617	537 (modified)	4:2 FTS		0.21 U	0.21	1.7	ng/L	1.7	UJ
RCF-FB-1-210617	537 (modified)	6:2 FTS		2.1 U	2.1	4.3	ng/L	4.3	UJ
RCF-FB-1-210617	537 (modified)	8:2 FTS		0.39 U	0.39	1.7	ng/L	1.7	UJ
RCF-FB-1-210617	537 (modified)	DONA		0.34 U	0.34	1.7	ng/L	1.7	UJ
RCF-FB-1-210617	537 (modified)	F-53B Major		0.21 U	0.21	1.7	ng/L	1.7	UJ
RCF-FB-1-210617	537 (modified)	F-53B Minor		0.27 U	0.27	1.7	ng/L	1.7	UJ
RCF-FB-1-210617	537 (modified)	HFPO-DA (GenX)		1.3 U	1.3	3.4	ng/L	3.4	UJ
RCF-FB-1-210617	537 (modified)	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)		1.1 U	1.1	4.3	ng/L	4.3	UJ
RCF-FB-1-210617	537 (modified)	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)		1 U	1	4.3	ng/L	4.3	UJ
RCF-FB-1-210617	537 (modified)	Perfluorobutanesulfonic acid (PFBS)		0.17 U	0.17	1.7	ng/L	1.7	UJ
RCF-FB-1-210617	537 (modified)	Perfluorobutanoic acid (PFBA)		2.1 U	2.1	4.3	ng/L	4.3	UJ
RCF-FB-1-210617	537 (modified)	Perfluorodecanesulfonic acid (PFDS)		0.27 U	0.27	1.7	ng/L	1.7	UJ
RCF-FB-1-210617	537 (modified)	Perfluorodecanoic acid (PFDA)		0.27 U	0.27	1.7	ng/L	1.7	UJ
RCF-FB-1-210617	537 (modified)	Perfluorododecanoic acid (PFDoA)		0.47 U	0.47	1.7	ng/L	1.7	UJ
RCF-FB-1-210617	537 (modified)	Perfluoroheptanesulfonic Acid (PFHps)		0.16 U	0.16	1.7	ng/L	1.7	UJ

CHEMTOOL FIRE SITE - RS WATER ANALYTICAL RESULTS SUMMARY
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Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
RCF-FB-1-210617	537 (modified)	Perfluoroheptanoic acid (PFHpA)	0.21 U	0.21	1.7	ng/L	1.7	UJ	
RCF-FB-1-210617	537 (modified)	Perfluorohexanesulfonic acid (PFHxS)	0.49 U	0.49	1.7	ng/L	1.7	UJ	
RCF-FB-1-210617	537 (modified)	Perfluorohexanoic acid (PFHxA)	0.5 U	0.5	1.7	ng/L	1.7	UJ	
RCF-FB-1-210617	537 (modified)	Perfluorononanesulfonic acid (PFNS)	0.32 U	0.32	1.7	ng/L	1.7	UJ	
RCF-FB-1-210617	537 (modified)	Perfluorononanoic acid (PFNA)	0.23 U	0.23	1.7	ng/L	1.7	UJ	
RCF-FB-1-210617	537 (modified)	Perfluorooctanesulfonamide (FOSA)	0.84 U	0.84	1.7	ng/L	1.7	UJ	
RCF-FB-1-210617	537 (modified)	Perfluorooctanesulfonic acid (PFOS)	0.46 U	0.46	1.7	ng/L	1.7	UJ	
RCF-FB-1-210617	537 (modified)	Perfluorooctanoic acid (PFOA)	0.73 U	0.73	1.7	ng/L	1.7	UJ	
RCF-FB-1-210617	537 (modified)	Perfluoropentanesulfonic acid (PFPeS)	0.26 U	0.26	1.7	ng/L	1.7	UJ	
RCF-FB-1-210617	537 (modified)	Perfluoropentanoic acid (PFPeA)	0.42 U	0.42	1.7	ng/L	1.7	UJ	
RCF-FB-1-210617	537 (modified)	Perfluorotetradecanoic acid (PFTeA)	0.62 U	0.62	1.7	ng/L	1.7	UJ	
RCF-FB-1-210617	537 (modified)	Perfluorotridecanoic acid (PFTriA)	1.1 U	1.1	1.7	ng/L	1.7	UJ	
RCF-FB-1-210617	537 (modified)	Perfluoroundecanoic acid (PFUnA)	0.94 U	0.94	1.7	ng/L	1.7	UJ	
RCF-SP-1-210617	537 (modified)	4:2 FTS	0.21 U	0.21	1.8	ng/L	1.8	UJ	
RCF-SP-1-210617	537 (modified)	6:2 FTS	2.2 U	2.2	4.4	ng/L	4.4	UJ	
RCF-SP-1-210617	537 (modified)	8:2 FTS	0.4 U	0.4	1.8	ng/L	1.8	UJ	
RCF-SP-1-210617	537 (modified)	DONA	0.35 U	0.35	1.8	ng/L	1.8	UJ	
RCF-SP-1-210617	537 (modified)	F-53B Major	0.21 U	0.21	1.8	ng/L	1.8	UJ	
RCF-SP-1-210617	537 (modified)	F-53B Minor	0.28 U	0.28	1.8	ng/L	1.8	UJ	
RCF-SP-1-210617	537 (modified)	HFPO-DA (GenX)	1.3 U	1.3	3.5	ng/L	3.5	UJ	
RCF-SP-1-210617	537 (modified)	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.1 U	1.1	4.4	ng/L	4.4	UJ	
RCF-SP-1-210617	537 (modified)	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.1 U	1.1	4.4	ng/L	4.4	UJ	
RCF-SP-1-210617	537 (modified)	Perfluorobutanesulfonic acid (PFBS)	2.7	0.18	1.8	ng/L	2.7	J	
RCF-SP-1-210617	537 (modified)	Perfluorobutanoic acid (PFBA)	13	2.1	4.4	ng/L	13	J	
RCF-SP-1-210617	537 (modified)	Perfluorodecanesulfonic acid (PFDS)	0.28 U	0.28	1.8	ng/L	1.8	UJ	
RCF-SP-1-210617	537 (modified)	Perfluorodecanoic acid (PFDA)	2.1	0.27	1.8	ng/L	2.1	J	
RCF-SP-1-210617	537 (modified)	Perfluorododecanoic acid (PFDoA)	0.48 U	0.48	1.8	ng/L	1.8	UJ	
RCF-SP-1-210617	537 (modified)	Perfluoroheptanesulfonic Acid (PFHps)	0.32 J	0.17	1.8	ng/L	0.32	J	
RCF-SP-1-210617	537 (modified)	Perfluoroheptanoic acid (PFHpA)	3.1	0.22	1.8	ng/L	3.1	J	
RCF-SP-1-210617	537 (modified)	Perfluorohexanesulfonic acid (PFHxS)	3.8	0.5	1.8	ng/L	3.8	J	
RCF-SP-1-210617	537 (modified)	Perfluorohexanoic acid (PFHxA)	50	0.51	1.8	ng/L	50	J	
RCF-SP-1-210617	537 (modified)	Perfluorononanesulfonic acid (PFNS)	0.32 U	0.32	1.8	ng/L	1.8	UJ	
RCF-SP-1-210617	537 (modified)	Perfluorononanoic acid (PFNA)	1.2 J	0.24	1.8	ng/L	1.2	J	
RCF-SP-1-210617	537 (modified)	Perfluorooctanesulfonamide (FOSA)	4.4	0.86	1.8	ng/L	4.4	J	
RCF-SP-1-210617	537 (modified)	Perfluorooctanesulfonic acid (PFOS)	15	0.47	1.8	ng/L	15	J	
RCF-SP-1-210617	537 (modified)	Perfluorooctanoic acid (PFOA)	4.9	0.75	1.8	ng/L	4.9	J	
RCF-SP-1-210617	537 (modified)	Perfluoropentanesulfonic acid (PFPeS)	0.26 U	0.26	1.8	ng/L	1.8	UJ	
RCF-SP-1-210617	537 (modified)	Perfluoropentanoic acid (PFPeA)	37	0.43	1.8	ng/L	37	J	
RCF-SP-1-210617	537 (modified)	Perfluorotetradecanoic acid (PFTeA)	0.64 U	0.64	1.8	ng/L	1.8	UJ	
RCF-SP-1-210617	537 (modified)	Perfluorotridecanoic acid (PFTriA)	1.1 U	1.1	1.8	ng/L	1.8	UJ	
RCF-SP-1-210617	537 (modified)	Perfluoroundecanoic acid (PFUnA)	0.97 U	0.97	1.8	ng/L	1.8	UJ	
RCF-SP-2-210617	537 (modified)	4:2 FTS	0.21 U	0.21	1.7	ng/L	1.7	UJ	
RCF-SP-2-210617	537 (modified)	6:2 FTS	2.2 U	2.2	4.3	ng/L	4.3	UJ	

CHEMTOOL FIRE SITE - RS WATER ANALYTICAL RESULTS SUMMARY
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Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
RCF-SP-2-210617	537 (modified)	8:2 FTS		0.4 U	0.4	1.7	ng/L	1.7	UJ
RCF-SP-2-210617	537 (modified)	DONA		0.35 U	0.35	1.7	ng/L	1.7	UJ
RCF-SP-2-210617	537 (modified)	F-53B Major		0.21 U	0.21	1.7	ng/L	1.7	UJ
RCF-SP-2-210617	537 (modified)	F-53B Minor		0.28 U	0.28	1.7	ng/L	1.7	UJ
RCF-SP-2-210617	537 (modified)	HFPO-DA (GenX)		1.3 U	1.3	3.5	ng/L	3.5	UJ
RCF-SP-2-210617	537 (modified)	N-ethylperfluoroctanesulfonamidoacetic acid (NEtFOSAA)		1.1 U	1.1	4.3	ng/L	4.3	UJ
RCF-SP-2-210617	537 (modified)	N-methylperfluoroctanesulfonamidoacetic acid (NMeFOSAA)		1 U	1	4.3	ng/L	4.3	UJ
RCF-SP-2-210617	537 (modified)	Perfluorobutanesulfonic acid (PFBS)		2.7	0.17	1.7	ng/L	2.7	J
RCF-SP-2-210617	537 (modified)	Perfluorobutanoic acid (PFBA)		13	2.1	4.3	ng/L	13	J
RCF-SP-2-210617	537 (modified)	Perfluorodecanesulfonic acid (PFDS)		0.28 U	0.28	1.7	ng/L	1.7	UJ
RCF-SP-2-210617	537 (modified)	Perfluorodecanoic acid (PFDA)		2.5	0.27	1.7	ng/L	2.5	J
RCF-SP-2-210617	537 (modified)	Perfluorododecanoic acid (PFDoA)		0.48 U	0.48	1.7	ng/L	1.7	UJ
RCF-SP-2-210617	537 (modified)	Perfluoroheptanesulfonic Acid (PFHps)		0.16 U	0.16	1.7	ng/L	1.7	UJ
RCF-SP-2-210617	537 (modified)	Perfluoroheptanoic acid (PFHpA)		2.6	0.22	1.7	ng/L	2.6	J
RCF-SP-2-210617	537 (modified)	Perfluorohexanesulfonic acid (PFHxS)		2.1	0.49	1.7	ng/L	2.1	J
RCF-SP-2-210617	537 (modified)	Perfluorohexanoic acid (PFHxA)		49	0.5	1.7	ng/L	49	J
RCF-SP-2-210617	537 (modified)	Perfluorononanesulfonic acid (PFNS)		0.32 U	0.32	1.7	ng/L	1.7	UJ
RCF-SP-2-210617	537 (modified)	Perfluorononanoic acid (PFNA)		0.39 J	0.23	1.7	ng/L	0.39	J
RCF-SP-2-210617	537 (modified)	Perfluorooctanesulfonamide (FOSA)		3	0.85	1.7	ng/L	3.0	J
RCF-SP-2-210617	537 (modified)	Perfluorooctanesulfonic acid (PFOS)		3.5	0.47	1.7	ng/L	3.5	J
RCF-SP-2-210617	537 (modified)	Perfluorooctanoic acid (PFOA)		2.7	0.73	1.7	ng/L	2.7	J
RCF-SP-2-210617	537 (modified)	Perfluoropentanesulfonic acid (PPeS)		0.26 U	0.26	1.7	ng/L	1.7	UJ
RCF-SP-2-210617	537 (modified)	Perfluoropentanoic acid (PPeA)		37	0.42	1.7	ng/L	37	J
RCF-SP-2-210617	537 (modified)	Perfluorotetradecanoic acid (PFTeA)		0.63 U	0.63	1.7	ng/L	1.7	UJ
RCF-SP-2-210617	537 (modified)	Perfluorotridecanoic acid (PFTriA)		1.1 U	1.1	1.7	ng/L	1.7	UJ
RCF-SP-2-210617	537 (modified)	Perfluoroundecanoic acid (PFUnA)		0.95 U	0.95	1.7	ng/L	1.7	UJ
RCF-UP-1-210617	537 (modified)	4:2 FTS		0.21 U	0.21	1.7	ng/L	1.7	UJ
RCF-UP-1-210617	537 (modified)	6:2 FTS		2.2 U	2.2	4.4	ng/L	4.4	UJ
RCF-UP-1-210617	537 (modified)	8:2 FTS		0.4 U	0.4	1.7	ng/L	1.7	UJ
RCF-UP-1-210617	537 (modified)	DONA		0.35 U	0.35	1.7	ng/L	1.7	UJ
RCF-UP-1-210617	537 (modified)	F-53B Major		0.21 U	0.21	1.7	ng/L	1.7	UJ
RCF-UP-1-210617	537 (modified)	F-53B Minor		0.28 U	0.28	1.7	ng/L	1.7	UJ
RCF-UP-1-210617	537 (modified)	HFPO-DA (GenX)		1.3 U	1.3	3.5	ng/L	3.5	UJ
RCF-UP-1-210617	537 (modified)	N-ethylperfluoroctanesulfonamidoacetic acid (NEtFOSAA)		1.1 U	1.1	4.4	ng/L	4.4	UJ
RCF-UP-1-210617	537 (modified)	N-methylperfluoroctanesulfonamidoacetic acid (NMeFOSAA)		1 U	1	4.4	ng/L	4.4	UJ
RCF-UP-1-210617	537 (modified)	Perfluorobutanesulfonic acid (PFBS)		2.7	0.17	1.7	ng/L	2.7	J
RCF-UP-1-210617	537 (modified)	Perfluorobutanoic acid (PFBA)		11	2.1	4.4	ng/L	11	J
RCF-UP-1-210617	537 (modified)	Perfluorodecanesulfonic acid (PFDS)		0.28 U	0.28	1.7	ng/L	1.7	UJ
RCF-UP-1-210617	537 (modified)	Perfluorodecanoic acid (PFDA)		2.7	0.27	1.7	ng/L	2.7	J
RCF-UP-1-210617	537 (modified)	Perfluorododecanoic acid (PFDoA)		0.48 U	0.48	1.7	ng/L	1.7	UJ
RCF-UP-1-210617	537 (modified)	Perfluoroheptanesulfonic Acid (PFHps)		0.17 U	0.17	1.7	ng/L	1.7	J
RCF-UP-1-210617	537 (modified)	Perfluoroheptanoic acid (PFHpA)		2.5	0.22	1.7	ng/L	2.5	J
RCF-UP-1-210617	537 (modified)	Perfluorohexanesulfonic acid (PFHxS)		2.2	0.5	1.7	ng/L	2.2	J

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Sample ID	Method	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val Result	Val Qual
RCF-UP-1-210617	537 (modified)	Perfluorohexanoic acid (PFHxA)	46		0.51	1.7	ng/L	46 J	
RCF-UP-1-210617	537 (modified)	Perfluorononanesulfonic acid (PFNS)	0.32 U		0.32	1.7	ng/L	1.7 UJ	
RCF-UP-1-210617	537 (modified)	Perfluorononanoic acid (PFNA)	0.35 J		0.24	1.7	ng/L	0.35 J	
RCF-UP-1-210617	537 (modified)	Perfluoroctanesulfonamide (FOSA)	3.7		0.86	1.7	ng/L	3.7 J	
RCF-UP-1-210617	537 (modified)	Perfluoroctanesulfonic acid (PFOS)	3.3		0.47	1.7	ng/L	3.3 J	
RCF-UP-1-210617	537 (modified)	Perfluoroctanoic acid (PFOA)	3		0.74	1.7	ng/L	3.0 J	
RCF-UP-1-210617	537 (modified)	Perfluoropentanesulfonic acid (PFPeS)	0.29 J		0.26	1.7	ng/L	0.29 J	
RCF-UP-1-210617	537 (modified)	Perfluoropentanoic acid (PFPeA)	32		0.43	1.7	ng/L	32 J	
RCF-UP-1-210617	537 (modified)	Perfluorotetradecanoic acid (PFTeA)	0.64 U		0.64	1.7	ng/L	1.7 UJ	
RCF-UP-1-210617	537 (modified)	Perfluorotridecanoic acid (PFTriA)	1.1 U		1.1	1.7	ng/L	1.7 UJ	
RCF-UP-1-210617	537 (modified)	Perfluoroundecanoic acid (PFUnA)	0.96 U		0.96	1.7	ng/L	1.7 UJ	